The joy of winter

Winter in Ontario's urban parks

A Report Prepared for the Ontario Ministry of Culture and Recreation

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We would like to apologize to the Borough of Etobicoke. In our first report, we incorrectly attributed Etobicoke's Centennial Park to another municipality.

Finally, we would like to note a number of additional important impacts of this project: Doh and Chris learned to snowshoe; Donna came to appreciate the boat even more; and Melissa and Tara had many opportunities to cross-country ski.

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I INTRODUCTION

1. PURPOSE

In the past 10-15 years, a great deal of research has been undertaken on the topic of the use of urban parks, but little study has been focussed on the use of urban parks during the winter months. There would appear, however, to be a growing trend for the winter use of urban parks. Popular activities include cross-country and downhill skiing, snowshoeing, hiking, jogging, and the controversial use of the snowmobile. In light of increasing urbanization, the development of new communities, the growing importance of the urban core as a residential area, certain economic factors (e.g., the rising cost of gasoline for extra-urban travel), and the increasing awareness of the question of the viability of the urban environment, it seems fair to suggest that the winter use of urban parks will continue to increase and that it does represent an area of great potential for extending the range and nature of urban recreation resources.

Until recently, it was the policy of many municipalities to virtually close down many parks in the winter months, or at least to cease provision of services. These patterns, however, seem to be changing. Winter use is being encouraged, but little is known about the patterns of use, its potential, and its problems. This report will, therefore, examine current patterns of use (both traditional and innovative), demand, programming, resource availability, the issues of demand and facilities, and trends for potential use and will make recommendations for future planning design and policy.

Phase I of this research (January - March, 1977) involved the following: review of the literature; examination of the effect of topography, vegetation, and climate on winter outdoor recreation activities; analysis of data on winter outdoor recreation activities from the Ontario Recreation Survey; analysis of data on winter outdoor recreation resources and activities in a sample of Ontario municipalities; case studies of the winter use of a sample of parks in Metropolitan Toronto; a discussion on possible future trends and influencing factors; and a series of recommendations on policy, planning, design, and programming.[1] Basically, the purpose of the study was, therefore, to begin to examine the state of the art of the winter use of urban parks in Ontario.

There are a number of parameters for this project which must be clearly set out from the beginning:

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1. The results of Phase I of the research can be found in Paul F. Wilkinson and Robert S. Lockhart, The Winter Use of Urban Parks (Toronto: Ontario Ministry of Culture and Recreation, 1977). Copies of the report may be obtained from the Ministry of Culture and Recreation, 8th Floor, 77 Bloor St. W., Toronto, Ontario M7A 2R9.

- The time period of interest is "winter", i.e. the period from approximately mid-December to the end of March which, obviously, is characterized by certain climatic conditions such as lower temperatures, ice, and snow.

- "Use" refers to outdoor recreation activities and excludes all activities which occur inside buildings (e.g., arenas, gymnasia, swimming pools, community centres) simply because such activities may occur at any time of the year.

- The spatial parameter of "urban" restricts the study to those areas which are found within the legal boundaries of urban areas, whatever their physical size (i.e., area). (For a variety of reasons, including the nature of the data from the Ontario Recreation Survey, the minimum population of an urban centre for this study was considered to be 5,000.)

- The term "park" refers to those areas which are officially designated as such and are administered by a municipal governmental recreation authority. Within the urban context, a rough hierarchy of parks can be described: local parks (including tot lots, neighbourhood parks, parkettes, vest pocket parks, etc.); intermediate parks; city/municipal parks; and regional parks. It should be noted that in some cases with local and intermediate parks, there will be a certain degree of joint use and/or overlapping jurisdiction between recreational and educational authorities.

- The geographical context of this study is Ontario. From a theoretical point of view, the study will obviously have implications beyond the Province, but from a practical standpoint it will be directed at the present and potential use of urban parks in Ontario.

- An attempt will be made to examine urban centres throughout the Province in order to study the effects of urban size, structure, policy, and climatic differences.

The goals of the research, then, are as follows:

- to examine the present situation
- to examine the potential situation
- to make recommendations for policy and programme action.

Phase II of this research (September, 1977 - May, 1978) involved the following:

- a broader literature search
- in-depth personal discussions with a wide range of experts in the areas of planning, design, management, programming, and maintenance of urban recreation systems
- presentations to a number of professional groups (e.g., Canadian Parks/Recreation Association, Ontario Recreation Society, Ontario Parks Association) as information/education sessions and as attempts to elicit comments on the first phase of the research, to test tentative conclusions and recommendations, and to seek advice on the format of the final report for Phase II
- seminars with small groups of professionals focussing on specific issues and problems.

An attempt was made to expand upon the "state-of-the-art" data obtained for Phase I and to deal with issues involved in the form of information which would be useful to the recreation professional dealing with planning, design, management, programming, and maintenance problems associated with the winter use of urban parks in Ontario. Therefore, while Phase I focussed on data collection, Phase II adopted more of an action-orientation.

2. LITERATURE SEARCH

Although the results were not unexpected, the literature search in Phase I was disappointing. Virtually no research has been conducted on the winter use of urban parks. The occasional general interest article (e.g., Martin (1974)) was discovered and a number of studies (e.g., Municipality of Metropolitan Toronto Planning Department (1976)) did mention that winter use was a subject which warranted extensive research. Studies on the use of urban parks either referred only to summer use or the data were not provided broken down by season. In Phase II, a number of major bibliographic computer retrieval files (e.g., Social Science Information System, National LIbrary System, Sport Information Resource Centre were searched, but yielded virtually no further useful references.

It is suggested that this lack of research is largely a function of the concentration in the past on two basic areas: the summer use of urban parks, and organized sports. It has only been during the last few years that there has been a visible shift towards year-round use and non-organized sport activities (e.g., cross-country skiing, physical fitness, family activities).

II PHYSICAL FACTORS AFFECTING WINTER OUTDOOR RECREATION

1. INTRODUCTION [1]

There would appear to be two major physical factors affecting winter outdoor recreation: local topography and vegetative cover; and climate. For many activities, it is difficult to say which is more significant. For example, downhill skiing requires hills, ground cover vegetation and tree cover to retain snow, low temperatures, and snow. The absence of any of these is sufficient either to negate the possibility of downhill skiing or to drastically alter the experience. For example, the presence of ground cover, tree cover, cold temperatures, and snow, but the absence of hills, would provide suitable conditions for cross-country skiing.

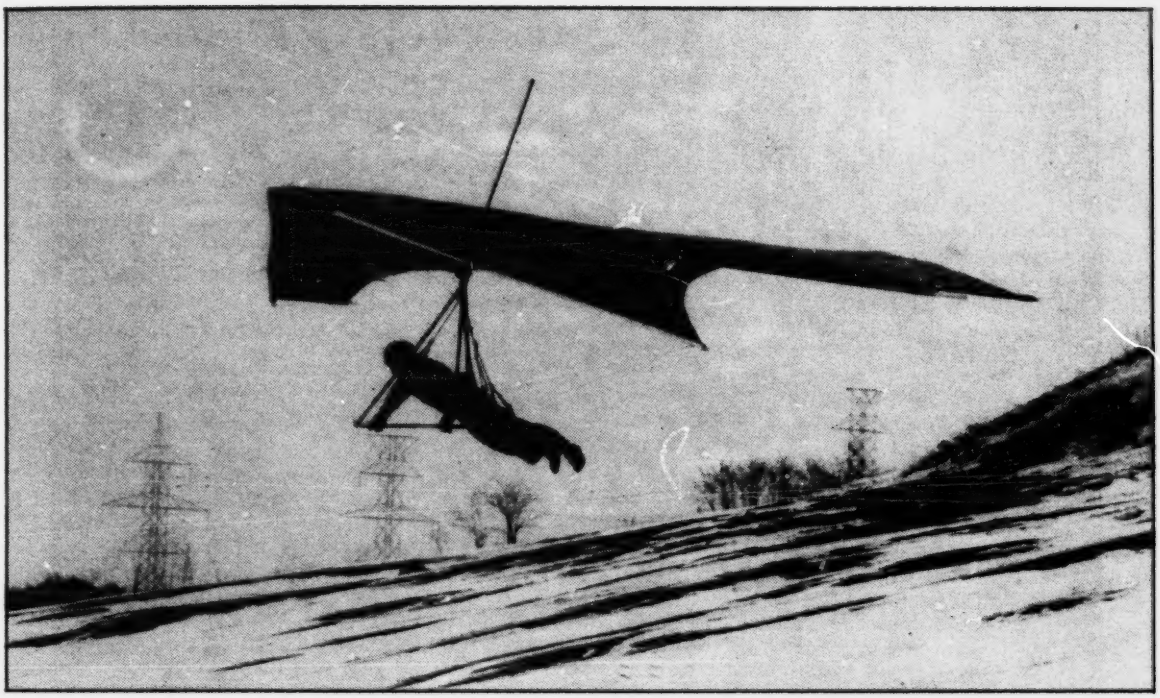
It is easier to provide detailed information on climate than on local topography and vegetative cover because of the site-specific nature of these latter factors. Climate is a macro-scale phenomenon, although the micro-climate of a particular site can have a major impact on the nature of the conditions for specific recreation activities at that site. Another problem is that climatic data are generally available only for a set of locations, although patterns can be extrapolated for nearby areas. For example, data on snowfall are gathered only at meteorological stations, many of which are located at airports. The open and exposed conditions of airport sites may result in more wind-swept conditions and, therefore, less snow depth than could be found in a nearby forest setting where cross-country skiing might take place. Obviously, local recreation planners must use macro-climatic data as rough measures and must become knowledgeable about local conditons at specific sites.[2]

It is much more difficult to make anything more than highly generalized statements about local topography and vegetative cover because of the site-specificity of such factors. Even such measures as mean altitude above sea level are meaningless because of their generality. Once again, it is critical that local recreation planners should be knowledgeable about local conditions at specific sites and should utilize this information as important background data in order to positively influence decisions concerning design, planning, programming, and overall operation.

---

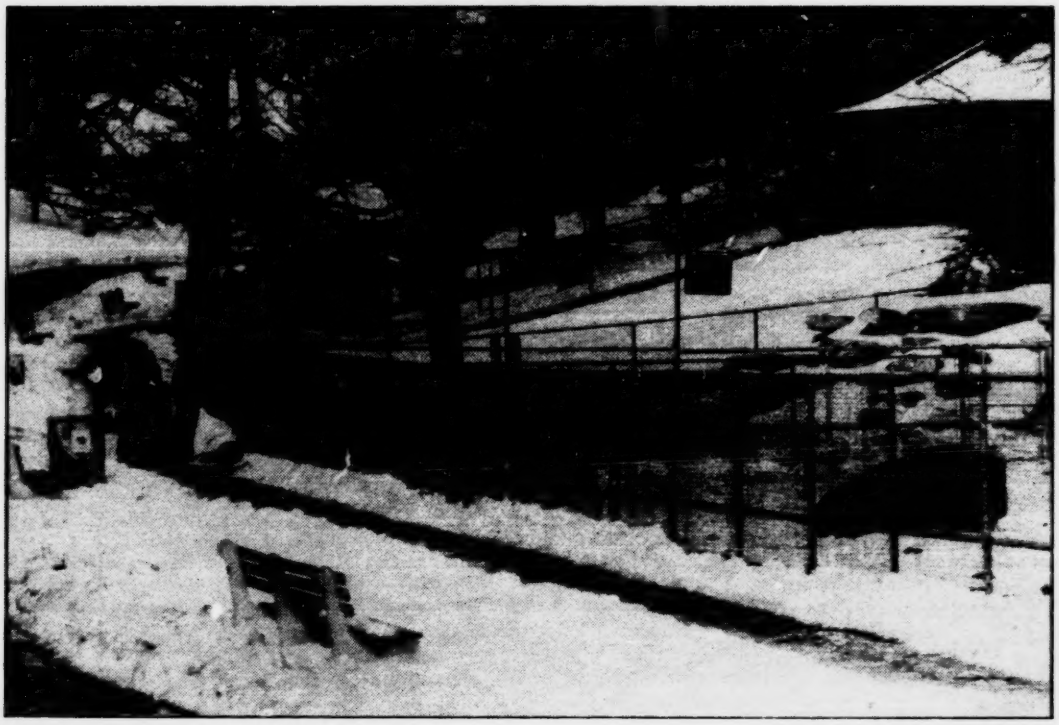
1. For a more complete discussion of the material presented in this chapter, see Wilkinson and Lockhart (1977).

2. Local recreation planners should contact the Atmospheric Environment Service of the Canada Department of the Environment for detailed meteorological data for their region. Crowe et al. (1973a, 1973b) provide extremely useful summaries of these data for Ontario.



Hang-gliding, Centennial Park, Etobicoke

Tobogganing, Centennial Park, Etobicoke



Zoo, High Park, Toronto

Snowmobiling, Centennial Park, Etobicoke

2. LOCAL TOPOGRAPHY AND VEGETATIVE COVER

The following are the major parameters which must be examined in order to assess the suitability of a particular site for various winter outdoor recreation activities.

(a) Elevation Above Surrounding Land

Elevation above surrounding land may be critical in terms of exposure to winds and susceptibility to windswept conditions, temperature differences, snowfall cover, accessibility, etc. The actual vertical height of the slope is imporrtant to such activities as downhill skiing, hang-gliding, and to a lesser extent, tobogganing. While it is possible to create added vertical height through either major berm construction on a flat area (e.g., Etobicoke's Centennial Park) or extension of the height of existing slopes (e.g., Maple's Honey Pot Ski Resort in a former gravel pit), such "artificial" hills are expensive and may be beyond the budget of all but the largest municipalities.

(b) Slope

Some activities (e.g., downhill skiing) obviously require slopes, while others (e.g., field sports) require flat surfaces. Alteration of existing slopes for activities such as tobogganing is quite common, and not necessarily costly; however, care must be taken in designing slopes so that run-outs are not dangerous as a result of roads, trails, water bodies, trees, picnic benches, etc.

(c) Variation in Local Topography

Some activities (e.g., cross-country skiing, snowmobiling) may be enhanced by varying the topography of the specific site. It is important to note, however, that some activities can have serious environmental impacts on such areas (particularly snowmobiling through churning action of treads resulting in erosion, widening of trails, cresting of sand dunes, etc.).[1]

(d) Vegetative Ground Cover

Vegetation such as grasses, grains, and sedges helps to retain snow cover and to prevent erosion as a result of run-off of melting snow. It is particularly important for activities which depend on the snow cover or which occur on hilly terrain (e.g., downhill or cross-country skiing, snowmobiling). Other areas may not be suitable for recreation because of the fragile nature of the ground cover and/or of the nature of the recreation activity. For example, snowmobiling may be incompatible with such fragile ecosystems as sand dunes or slopes where the ground cover is thin or unstable. Other activities may have to be restricted to times when the ground cover is sufficiently frozen and/or covered with sufficient snow; for example, field sports should not be permitted during temporary thaws or after the onset of early spring conditions.

---

1. Wall and Wright (1977) provide an excellent discussion on the environmental impacts of recreation.

(e) Tree Cover

As noted above, exposed locations usually have shallower snow cover and may be more susceptible to climatic conditions, thus causing discomfort from wind chill. Tree cover helps to provide shade and decrease the melting rate of snow, to break the force of the wind, and to provide shelter for recreationists. There is also an aesthetic factor involved; that is, it may be more appealing to cross-country ski, for instance, through a forest than across a plain. Plantings, however, can also be used to discourage use; for example, the judicious placement of trees could prevent tobogganing on a slope whose run-out is too close to a road.

(f) Groundwater and Surface Water

Hydrological factors can have both positive and negative effects on the suitability of a particular site. Groundwater may result in wet ground conditions, particularly in spring,and recreation activity (e.g., snowmobiling) may cause serious erosion problems. This problem is of particular concern on playing fields; however, snow-fencing could be installed late in the winter to prevent field sports before the ground thaws. It may also be necessary to schedule formal field sport programmes only in the coldest part of winter and to be prepared to cancel events if there is the danger of a thaw.

Other areas (e.g., marshes, bogs) may be unsuitable for many activities because of the shallow water table and/or the fragility of the ecosystem. Surface water conditions provide excellent opportunities for winter outdoor recreation (e.g., skating, hockey, ice fishing, ice boating, snowmobiling, cross-country skiing), but thin or unreliable ice may present safety problems. (Public awareness, through signs, radio reports, etc., is of critical importance in such cases.)

(g) Conclusion

In order to assess the suitability of a specific site for a particular activity or mix of activities, the recreation planner should do a complete inventory of the above factors. This task requires extensive field work and detailed mapping and the expertise of an inter-disciplinary team of experts.

3. THE ROLE OF CLIMATE IN URBAN WINTER OUTDOOR RECREATION IN ONTARIO

(a) Introduction [1]

It would appear that the basic parameters defining the winter season with respect to outdoor recreation activities are the presence of snow and of ice cover. Crowe et al. (1973b) state that winter begins on the median date of the first 2.5 cm (1 inch) of snow cover and ends on the median date of the last 2.5 cm (1 inch) of snow cover. Even if there is technically a snow cover, however, snow conditions may be far from ideal in terms of particular winter activities, such as skiing and snowmobiling.

Although snow cover has been used as the basis for determining the length of the winter season, clearly other factors are of importance. Snow cover is partly a function of snowfall and the study of snowfall records adds further to the understanding of the quality, duration, and extent of snow. The formation and break-up of ice on waterways is also a matter of considerable importance in the definition of seasons because rivers and lakes are used for snowmobiling, ice fishing, ice boating, and ice hockey.

From a climatological point of view, there is a strong relationship between the ice season and the season of snow cover. This section on climate will, therefore, deal mainly with snow as the major parameter for defining winter.

The major emphasis in research on recreation and the winter climate has been on skiing and snowmobiling (Crowe et al. 1973b) because of their widespread popularity and because the conditions required for these activities are strongly related to those required for other activities of secondary importance (e.g., snowshoeing, ice boating, ice fishing, tobogganing). The discussion here, therefore, will focus on skiing (both downhill and cross-country) and snowmobiling.

(b) Suitable Weather as a Supply Factor

(i) Winter outdoor recreation requires air temperatures within a very specific range. Excessively low temperatures are a handicap to all outdoor activities because of their adverse effect upon human comfort levels. On the other hand, high air temperatures may result in melting, which spoils snow surfaces, weakens ice, and may produce wet surfaces and flooding.

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1. The authors gratefully acknowledge the importance of Crowe et al. (1973a, 1973b) in the writing of this report.

The analysis of daily maximum and minimum temperatures provides a convenient method of examining the suitability of temperature for outdoor winter activity, with maximum temperature values usually being more useful because outdoor activities usually occur during daylight hours when the temperature is near or at its maximum. In general, temperatures decrease rapidly during the early winter and increase quickly during the late winter, the coldest month usually being January. Over the long-term, the average spread between maximum and minimum temperatures varies from 5-17oC (10-30oF). The daily (or diurnal range is greatest in mid-winter and at inland locations away from the Great Lakes.

Obviously, low temperatures necessitate closing many facilities which have not been constructed for winter use (e.g., washrooms, drinking fountains). Many activities, however, will require warming huts, change rooms, washrooms, etc. Such facilities are expensive and retrofitting existing facilities to winter standards may not be feasible. The implications of this problem will be discussed later.

(ii) Wind Chill

The most serious limitation to the pursuit of outdoor winter recreation as far as comfort is concerned is not low temperature per se, but rather wind chill. The combination of high winds and low temperatures causes serious discomfort and at times presents the danger of frostbite or even death. Wind chill is an approximation of the rate of loss of heat from exposed flesh.1 Wind chill is generally a serious problem only in (late) December, January and February and is most serious in Central and Northern Ontario. Warming huts and shelters would be useful for many activities to overcome this problem.

(iii) Precipitation

Winter recreation may be hindered in varying degrees by many types of winter precipitation (e.g., rain, snow, freezing rain, ice pellets), with light snow being the least disruptive. In fact, some light snow may enhance the recreational experience, from both physical and aesthetic points of view. Other forms of precipitation, however, can affect the nature of the recreation experience itself, visibility, transportation, comfort, etc. For example, freezing rain can adversely affect snow cover for skiing, while heavy snow can affect visibility and driving conditions. Obviously, the three major factors involved are: type of precipitation, amount, and duration.

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1. Crowe et al. (1973b) have calculated the mean percentage of time that the wind chill is likely to exceed proportions such that exposed flesh would freeze at a number of locations in Ontario. The reader is also referred to Auliciems et al. (1973) who outline winter clothing requirements for various Canadian localities.

Significant snowfalls usually occur as early as September in Northern Ontario and October over Southern Ontario, with appreciable amounts as late as May in the North and April in the South. Over Southern Ontario, most of the snow falls at mid-winter, but in the North there is a tendency for heavier amounts in the early part of the season. The higher values at stations to the lee of the Great Lakes are notable features, the snowfall diminishing as waterways become ice-covered. (See Map 1.)

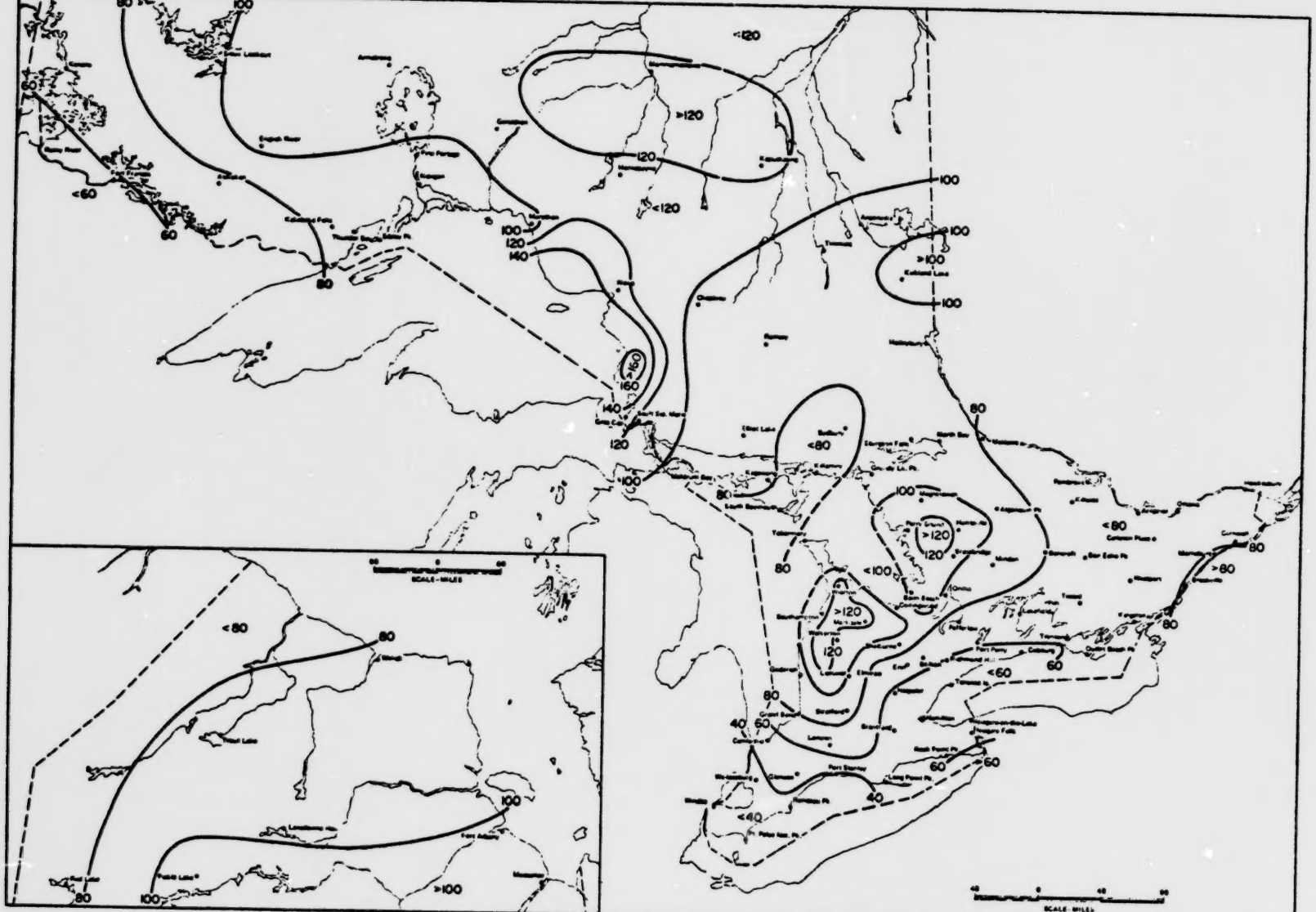
A major problem encountered by many municipalities is that clearing snow in parks and on rinks receives second priority because snow-clearing equipment must be used first to clear roads and sidewalks. For example, Ottawa has a much longer winter season than Toronto, but because it receives much more snow and is unable to clean it off ice rinks quickly, the number of days on which rinks can be used is roughly equal in both cities. (See Chapter 3.) One possible solution - which obviously has many other implications that will be discussed later - is to cluster rinks on a small number of sites, thus reducing travelling time for equipment or even making it feasible to maintain equipment on-site primarily for that purpose.

Rainfall can adversely affect both the snow surface and the base snow. This is a major factor in much of the South during the winter months. A suitable measure of the problem is the percentage of total precipitation falling as snow cover during the winter months. Rainfall has serious implications for the maintenance of suitable conditions for most winter activities. For those activities dependent on snow per se, there is little that can be done in a preventive or remedial way. For ice-related activities, however, solutions may range from ensuring the creation of an adequate ice base to withstand the milder weather and keeping people off soft or wet ice, to an active decision to emphasize covered or indoor rinks.

(iv) Snow Cover

The presence of a snow cover (or the ability to prepare one in the case of artificial snow for downhill skiing) is essential for many winter pursuits. Also, the snow cover must have acceptable physical characteristics. Snow depth is of primary concern, but the existence of a crust or of wet snow conditions places limitations on the quality of skiing or snowmobiling.

Meteorological data give the median value of snow depth; however, these are usually airport sites which may be more windswept than could normally be expected in areas where recreation activities occur. For example, wooded areas would usually have greater snow depth. Average winter maximum values of less than 30 cm (1 foot) of snow cover are common over most of Central and Eastern Ontario at some time during a normal winter and 90 cm (3 feet) or more over Northern Ontario. Again, increased snow depth in the lee of the Great Lakes is a notable feature. It should be emphasized that the variation in snow depth from day to day and from one year to another is great, and that great spatial variations may also occur at any specified time.



Map 1 Mean winter snowfall (inches)

Source: Crowe et al. (1973b, p.48)

Snow conditions can be inferred from rainfall data for winter months. In general, the greater the rainfall in these months, the greater the probability of poor snow conditions, because rains and thaws tend to compress and melt the snow cover. Moreover, those parts of Ontario having the lowest average snow depth generally have the lowest probability of good snow surface conditions. Much of Southern and Southwestern Ontario receives considerable rain in January and, therefore, crusty and wet snow conditions are frequently encountered.

(v) Sunshine and Daylight

While sunshine is not a necessary element for most winter pursuits, its presence usually adds to enjoyment and satisfaction. The length of day is also of interest, but neither of these two parameters is as important as those noted above.

(vi) Cloudiness

In general, sunny skies occur on only about 5-15% of the afternoons in November and on about 20-40% in March. Values for the other months lie between these extremes. Southern Ontario is generally cloudier than the North, particularly in those areas to the lee of the Great Lakes. Skies are partly cloudy 15-25% of the time in most months and at most localities.

(vii) Fog

By definition, fog occurs when visibility is reduced to less than one kilometer (5/8 mile) by water droplets or ice crystals. Mist and haze refer to conditions in which the visibility is restricted to a lesser degree. While mist can be a nuisance, the occurrence of fog is of much greater significance. Over Northern Ontario, fog occurs only on one or two days a month at the height of winter, but over the Southern half of Ontario it is present at least one day a week. Fogs are likely to be more frequent to the lee of large bodies of open water and at higher elevations, particularly when land areas are snow-covered.

(viii) Wind

Wind is of major importance because it increases heat loss and because, through blowing and drifting snow, it limits visibility and may arrest movement. The important parameters are wind speed and wind chill. In general, there is little variation from month to month, but those locations in Southern Ontario near the Great Lakes generally are windier than those in the North. Local topography is of critical importance in determining wind speed and direction. Generally, winds are usually strongest during the afternoon and lightest at night. In winter, the strongest winds are usually associated with outbreaks of cold air, which may arrive at any time of the day. Careful design of parks can alleviate some of the effects of wind, through the use of trees, berms, etc. as windbreaks.

(c) Satisfaction

Man's reaction to weather is complex and highly individualistic, involving perception of and physiological reaction to a large number of elements acting with differing strengths and in various combinations. Furthermore, man can insulate himself from the weather through clothing, shelter, and heating. Finally, the nature of the recreation activity itself is a major factor. For example, the same weather conditions will influence downhill and cross-country skiers differently. Crowe et al. (1973b) provide an interesting attempt at measuring the quality of the recreation experience through analysis of satisfaction in terms of comfort, weather, and snow cover suitability. The assumptions upon which they base their conclusions are highly tentative and some of their methods quite contentious; however, the study is the first of its kind and merits further attention. Only their more basic conclusions will be reported here.

Comfort is largely dependent on wind chill, which is a function of wind speed and temperature. Obviously, this is a major constraint to outdoor winter activities, particularly in Northern Ontario. As noted above, the effect of weather is a function of such factors as precipitation, fog, cloudiness, etc. and may vary greatly among different activities. Suitable snow cover, in terms of skiing and snowmobiling, depends on a minimum snow depth, good tractionability, and a snow surface that is not crusty or wet. The exact parameters and limits are not known, but the following criteria are suggested for a day suitable for several activities, including cross-country skiing, downhill skiing, and snowmobiling:

- snow cover of 5 cm (2 inches) or more at 7 a.m.
- no measureable liquid precipitation (rain, drizzle, freezing rain, or freezing drizzle) during the 24-hour period
- maximum temperature for the day less than 4°C (40°F).

The choice of these criteria was based on a combination of the availability of data (e.g., snow depth data are available on a daily basis only for 7 a.m. EST) and discussions with individuals, organizations, and agencies associated with winter activities. They must be treated, therefore, as being highly tentative.

(d) Snow Cover Suitability for Skiing and Snowmobiling

Table 1 summarizes by regions the mean percentages of time that conditions are too cold and completely comfortable for skiing and snowmobiling at the end of January, the approximate mid-point of winter. There would appear to be three major parameters in determining the suitability of snow cover for these activities: mean maximum temperature, total precipitation, and time of year.

Mean temperature is a major factor. The lower the temperature, the higher the probability of having a suitable snow cover; however, the relationship is not linear. At mean maximum temperatures between about -1°C to +1°C (30-35°F), there is about a 50% probability of having suitable snow cover. With increasing temperature, this drops rapidly to about 10% at 4°C to 7°C (40-45°F), and then less rapidly at higher temperatures. Similarly, with decreasing maximum temperatures below -1°C to +1°C (30-35°F), the percentages for suitable snow cover days increase rapidly to about 90% at -7°C to -4°C (20-25°F), and then less rapidly at lower temperatures. It is important to note that this relationship holds only for long-term mean temperature values because day-to-day variations are normally large.

At reasonably low temperatures, the greater the precipitation, the greater the snowfall and, therefore, the higher the probability of suitable snow cover.

In terms of time of the year, the probability of suitable snow cover increases throughout the winter season for a given mean temperature (largely because of accumulating amounts of snow on the ground). For example, the 50% probability of suitable days is found with a mean maximum temperature of about -1°C (30°F) in mid-November, but at the end of April the 50% probability occurs at a mean maximum temperature of about +1°C (35°F).

The basic conclusion is that winter conditions for skiing and snowmobiling generally improve to the north and away from the moderating influence of the Great Lakes.

Map 2 shows the length in days of marginally reliable or better than reliable snow cover.[1] Table 2 presents information on the mean beginning and ending dates and lengths

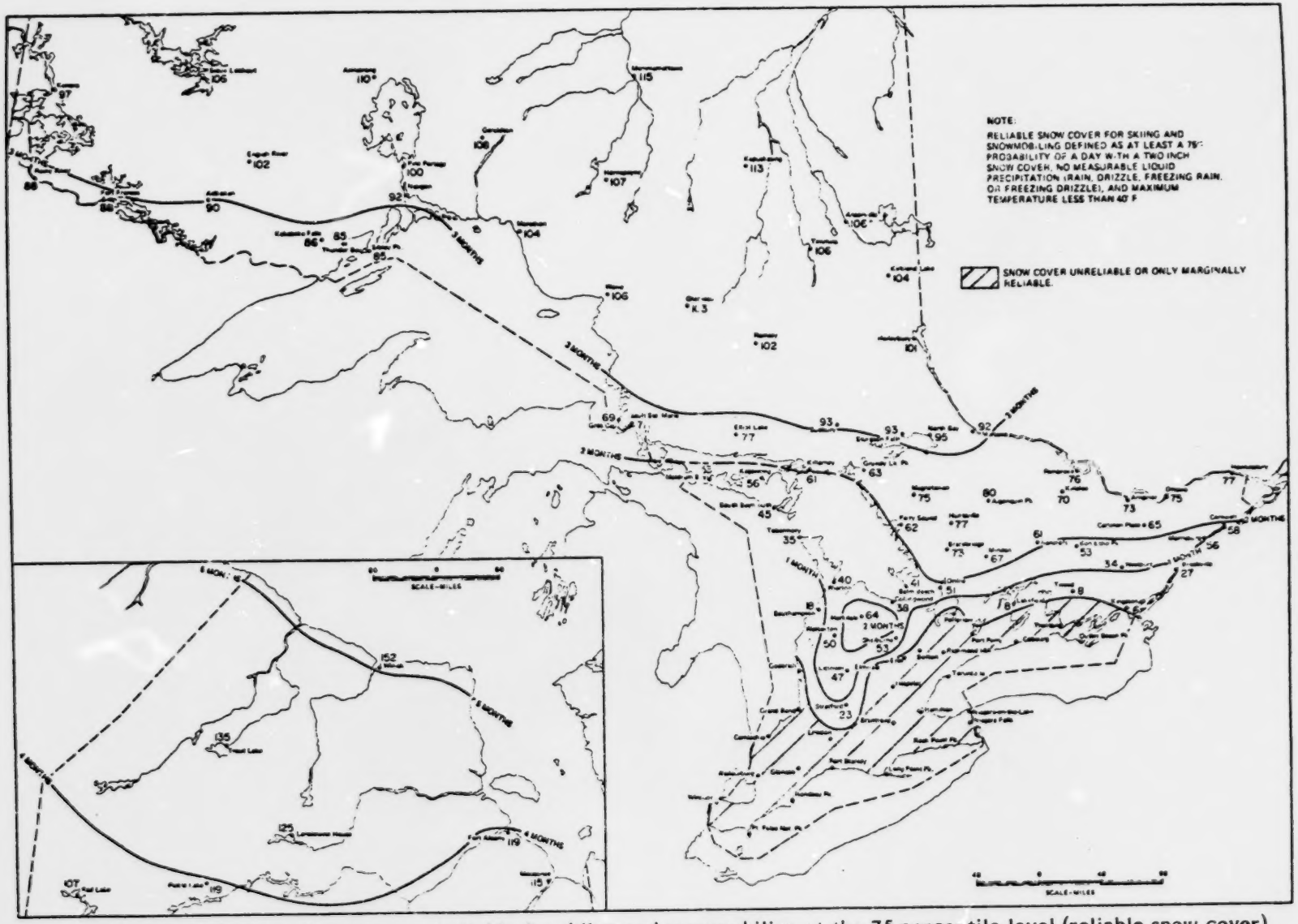
1. It is important to note that Crowe et al. (1973b) have used the term "percentile" incorrectly in a strict statistical sense throughout their study. A percentile indicates the percentage of the total number of cases in a frequency distribution that fall below that point (Theodorson and Theodorson (1969, pp. 294-295)). As such, a percentile is a relative measure. Crowe et al. (1973b), however, are using it in an absolute sense because they are comparing all periods with meeting an absolute value or minimum (i.e., those climatological conditions being defined as constituting suitable conditions for skiing or snowmobiling). In fact, the figures represent the expected percentage of days of suitable conditions during a particular period or, similarly, the probability (in percentage terms) that a day during a particular period can be expected to have suitable conditions.

Table 1

Summary by regions of mean percentages of time that conditions are too cold and completely comfortable for skiing and snowmobiling at the end of January

Station	Skiing		Snowmobiling	
	Too cold Max < -3 °F	Completely comfortable Max > 20 °F	Too cold Max < -9 °F	Completely comfortable Max > 8 °F
SOUTHWESTERN ONTARIO				
Leamington	0	88-89	0	99-100
Kent and Essex	0	86-87	0	99-100
Lake Erie Counties Inland	0-1	80-89	0	95-99
Lake Erie Shore	0	86-89	0	99-100
SOUTHERN ONTARIO				
Toronto-Burlington	1	77-79	0	96-97
Niagara Fruit Belt	0-1	79-86	0	96-99
South Slopes-West	0-1	74-80	0	95-98
South Slopes-East	1	70-75	0	92-95
Lake Ontario Shore	1	75-77	0	94-96
Prince Edward County	1	74-76	0	93-95
Lake Huron Shore	0-1	78-84	0	98-99
Bruce Peninsula	0-1	75-77	0	96-98
Southern Georgian Bay	1	69-74	0	94-97
Huron Slopes	1	70-81	0	91-98
Dundalk Upland	1	65-74	0	93-96
Simcoe	1	67-74	0	93-95
Kawartha Lakes	1-2	62-73	0-1	90-95
EASTERN ONTARIO				
Eastern Counties	2-3	51-69	1	82-91
Renfrew	4-6	43-50	1-2	74-81
CENTRAL ONTARIO				
Muskoka	1-2	58-68	0-1	90-93
Haliburton Slopes-West	1-2	56-66	0-1	86-91
Haliburton Slopes-East	1-6	43-61	1-2	74-88
Algonquin Park	1-5	55-59	1-2	79-90
Manitoulin	1	62-65	0	91-94
Sudbury-East	2-7	41-59	1-2	74-89
Sudbury-West	2-3	49-61	0-2	83-91
Sault Ste. Marie	1-2	56-60	0-1	88-91
Timiskaming	7-8	38-41	2-3	72-74
NORTHEASTERN ONTARIO				
Superior Shore	3-10	39-55	2-3	69-87
Superior Inland	3-11	36-55	2-4	68-87
Heght of Land-East	4-17	26-48	3-11	58-82
Northern Clay Belt	10-18	25-35	4-9	53-69
NORTHWESTERN ONTARIO				
Height of Land-West	11-16	26-35	4-11	59-67
Thunder Bay	4-5	44-46	2-3	74-77
Kakabeka	5-10	36-46	2-4	68-77
Rainy River	11-16	26-35	3-8	61-67
English River	16-24	20-25	9-13	50-60
FAR NORTHERN ONTARIO				
Albany-West	17-40	10-25	12-22	35-58
Albany-East	19-30	15-25	10-17	39-52
Patricia	31-52	6-14	18-39	21-38
Hudson Bay Shore	53-57	3-5	40-43	17-20

Source: Crowe et al. (1973b, p. 76)


NOTE:
RELIABLE SNOW COVER FOR SKIING AND SNOWMOBILING DEFINED AS AT LEAST A 75% PROBABILITY OF A DAY WITH A TWO INCH SNOW COVER, NO MEASURABLE LIQUID PRECIPITATION (RAIN, DRIZZLE, FREEZING RAIN, OR FREEZING DRIZZLE), AND MAXIMUM TEMPERATURE LESS THAN 40° F
SNOW COVER UNRELIABLE OR ONLY MARGINALLY RELIABLE.
3 MONTHS
2 MONTHS
4 MONTHS
SCALE-MILES

Map 2 Length in days of snow cover suitable for skiing and snowmobiling at the 75 percentile level (reliable snow cover)

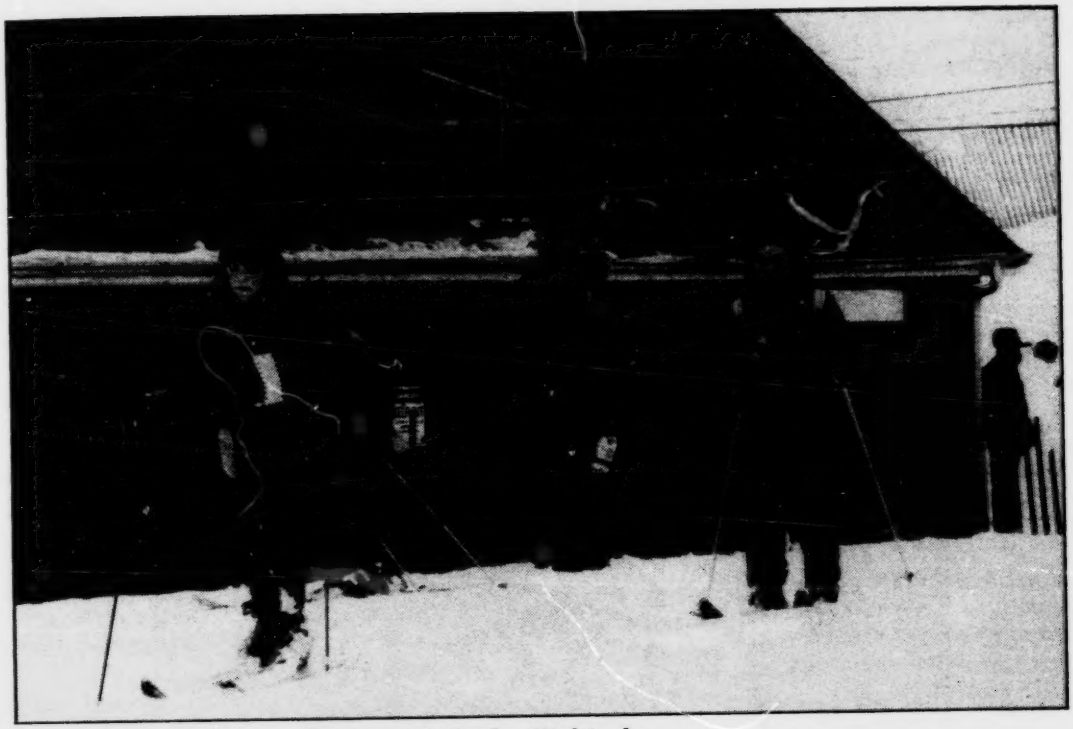
Source: Crowe et al. (1973b, p. 178)

Table 4

Summary of mean beginning and ending dates and lengths of marginally reliable and reliable snow cover for skiing and snowmobiling

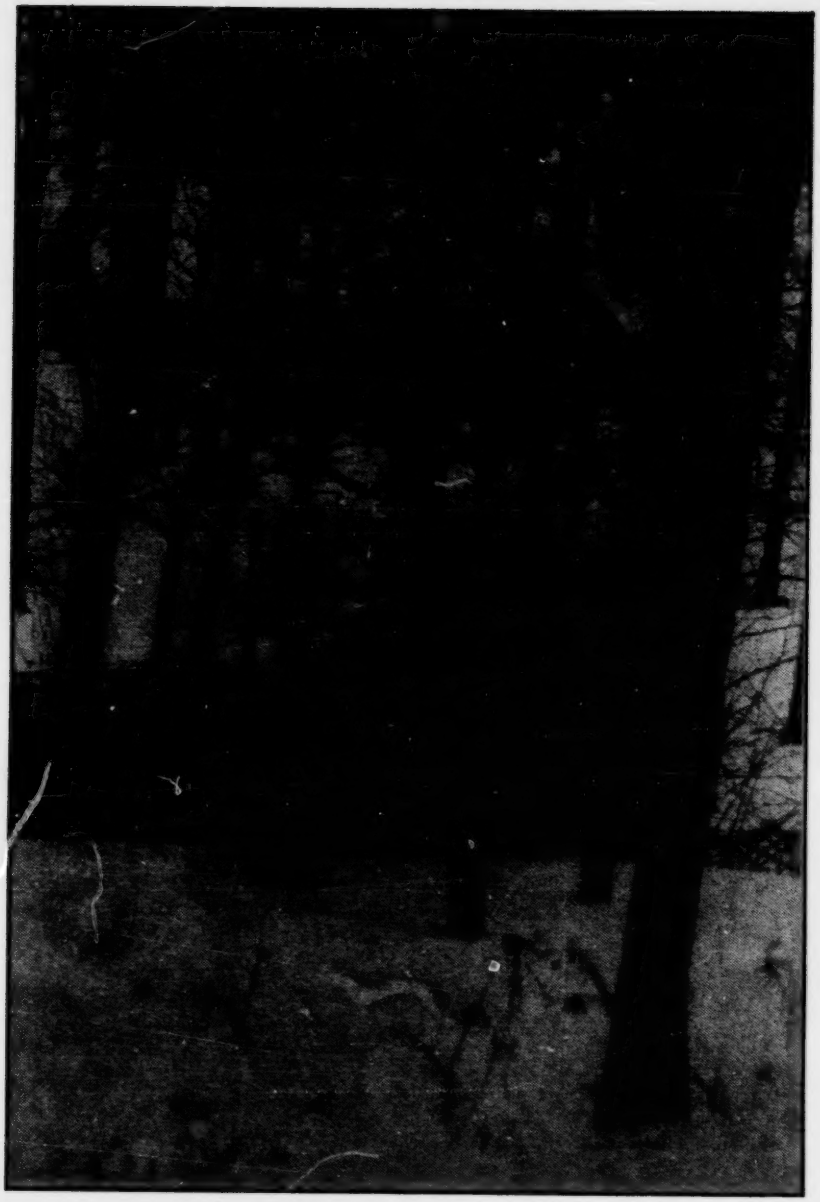
Region	Beginning of marginally reliable snow cover	Beginning of reliable snow cover	Ending of Reliable snow cover	Ending of marginally reliable snow cover	Length of snow cover marginally reliable or better (Months)	Length of reliable snow cover (Months)
SOUTHWESTERN ONTARIO						
Leamington		No reliable or marginally reliable snow cover			0	0
Kent and Essex		No reliable or marginally reliable snow cover			0	0
Lake Erie Counties Inland	Early to Mid-Jan.	No reliable snow cover		Mid-Feb.	1½	0
Lake Erie Shore	Early to Mid-Jan.	No reliable snow cover		Mid-Feb.	1½	0
SOUTHERN ONTARIO						
Toronto-Burlington	Early to Mid-Jan.	No reliable snow cover		Early to Mid-Feb.	1	0
Niagara Fruit Belt		No reliable or marginally reliable snow cover			0	0
South Slopes-West	Late Dec. to Early Jan.	No reliable snow cover		Late Feb. to Early Mar.	2	0
South Slopes-East	Mid-to Late Dec.	No reliable snow cover		Late Feb. to Early Mar.	2½	0
Lake Ontario Shore	Late Dec.	No reliable snow cover		Mid- to Late Feb.	2	0
Prince Edward County	Mid- to Late Dec.	No reliable snow cover		Late Feb. to Early Mar.	2½	0
Lake Huron Shore	Mid- to Late Dec.	No reliable snow cover		Late Feb. to Early Mar.	2½	0
Bruce Peninsula	Mid-Dec.	Mid-Jan.	Mid-Feb.	Mid-Mar.	3	1
Southern Georgian Bay	Mid-Dec.	Mid-Jan.	Mid-Feb.	Mid-Mar.	3	1½
Huron Slopes	Mid- to Late Dec.	Early Jan.	Early to Mid-Feb.	Early to Mid-Mar.	3	1½
Dundalk Upland	Early to Mid-Dec.	Late Dec. to Early Jan.	Late Feb.	Mid-Mar.	3½	2
Simcoe	Mid-Dec.	Early to Mid-Jan	Early to Mid-Feb.	Early to Mid-Mar.	3	1
Kawartha Lakes	Mid-Dec.	Mid- to Late Jan.	Late Jan. to Early Feb.	Early Mar.	2½	½
EASTERN ONTARIO						
Eastern Counties	Early to Mid-Dec.	Late Dec. to Early Jan.	Mid to Late Feb.	Early to Mid-Mar.	3	2
Renfrew	Early Dec.	Mid- to Late Dec.	Late Feb. to Early Mar.	Mid-Mar.	3½	2½
CENTRAL ONTARIO						
Muskoka	Early Dec.	Late Dec.	Late Feb.	Mid-Mar.	3½	2½
Haliburton Slopes-West	Early Dec.	Mid- to Late Dec.	Late Feb. to Early Mar.	Mid-Mar.	3½	2½
Haliburton Slopes-East	Early Dec.	Mid - to Late Dec.	Late Feb. to Early Mar.	Mid-Mar.	3½	2½
Algonquin Park	Late Nov. to Early Dec.	Mid-Dec.	Early Mar.	Mid- to Late Mar.	3½	2½
Manitoulin	Mid-Dec.	Early Jan.	Late Feb.	Mid-Mar.	3	1½
Sudbury-East	Late Nov. to Early Dec.	Mid- to Late Dec.	Early to Mid-Mar.	Mid- to Late Mar.	4	3
Sudbury-West	Early Dec.	Mid- to Late Dec.	Early Mar.	Mid- to Late Mar.	3½	2½
Sault Ste. Marie	Early Dec.	Mid- to Late Dec.	Early Mar.	Mid-Mar.	3½	2½
Timiskaming	Late Nov.	Early Dec.	Mid-Mar.	Late Mar.	4	3½
NORTHEASTERN ONTARIO						
Superior Shore	Mid- to Late Nov.	Early to Mid-Dec.	Early to Mid-Mar.	Late Mar.	4	3
Superior Inland	Mid- to Late Nov.	Mid-Dec.	Early to Mid-Mar.	Late Mar. to Early Apr.	4½	3½
Height of Land-East	Mid- to Late Nov.	Late Nov. to Early Dec.	Mid-Mar.	Late Mar.	4½	3½
Northern Clay Belt	Mid-Nov.	Late Nov. to Early Dec.	Mid-Mar.	Late Mar.	4½	3½
NORTHWESTERN ONTARIO						
Height of Land-West	Mid- to Late Nov.	Late Nov. to Early Dec.	Early to Mid-Mar.	Late Mar.	4	3½
Thunder Bay	Late Nov.	Mid-Dec.	Early Mar.	Late Mar.	4	3
Kakabeka	Late Nov.	Early to Mid-Dec.	Early Mar.	Mid- to Late Mar.	4	3
Rainy River	Mid- to Late Nov.	Early Dec.	Early Mar.	Mid- to Late Mar.	4	3
English River	Mid-Nov.	Late Nov.	Mid-Mar.	Late Mar.	4½	3½
FAR NORTHERN ONTARIO						
Albany-West	Early to Mid-Nov.	Mid- to Late Nov.	Mid- to Late Mar.	Late Mar. to Early Apr.	4½	4
Albany-East	Mid-Nov.	Late Nov.	Mid- to Late Mar.	Late Mar. to Early Apr.	4½	4
Patricia	Early to Mid-Nov.	Mid - to Late Nov.	Late Mar. to Early Apr.	Early to Mid-Apr.	5	4½
Hudson Bay Shore	Early to Mid-Nov.	Mid-Nov.	Mid-Apr.	Mid- to Late Apr.	5½	5

Source: Crowe et al. (1973b, p. 120)



Downhill ski lessons, Centennial Park, Etobicoke

Cross-country skiers, High Park, Toronto



Vita Parcours, High Park, Toronto

of marginally reliable and reliable snow cover. Figure 1 graphically portrays the length of winter season of unreliable, marginally reliable, and reliable snow cover at four representative stations. This mass of data has been presented here for two reasons. First, detailed information on particular areas or municipalities may be of interest to the planners and decision-makers from those places who may be interested in this topic; also, this information is only available in Crowe et al. (1973b) or if the local recreation planner obtains these data from The Atmospheric Environment Services of the Canada Department of the Environment.

The second reason, however, is more important. In geographical terms, the major pattern that is made extremely clear by these data is that a large part of Ontario has a winter climate very highly suited to activities such as skiing and snowmobiling, but the problem is that those areas where the snow cover is not very reliable contain the largest proportion of the population. The impact of this fact on municipal recreation agencies is very great. Those municipalities located in areas of reliable winter conditions are not under very great pressure to provide winter recreation programmes and facilities within the urban area for two reasons: the populations are relatively small and the resources (e.g., snow, forests, lakes, hills) are readily available in close proximity to the municipalities. Such is obviously the case in Northern Ontario. The Southern parts of the Province, however, have exactly the opposite problem: large populations, unreliable winter conditions, and few alternatives for winter outdoor recreation activities nearby. The question then arises as to whether these Southern municipalities should de-emphasize winter outdoor activities and concentrate on other seasons and/or indoor activities or whether they are obligated by the very nature of the situation to provide

- basic winter outdoor recreation activities when their populations have no alternative outside the municipality in nearby areas and/or

- alternative activities.

This problem will be examined further in later chapters.

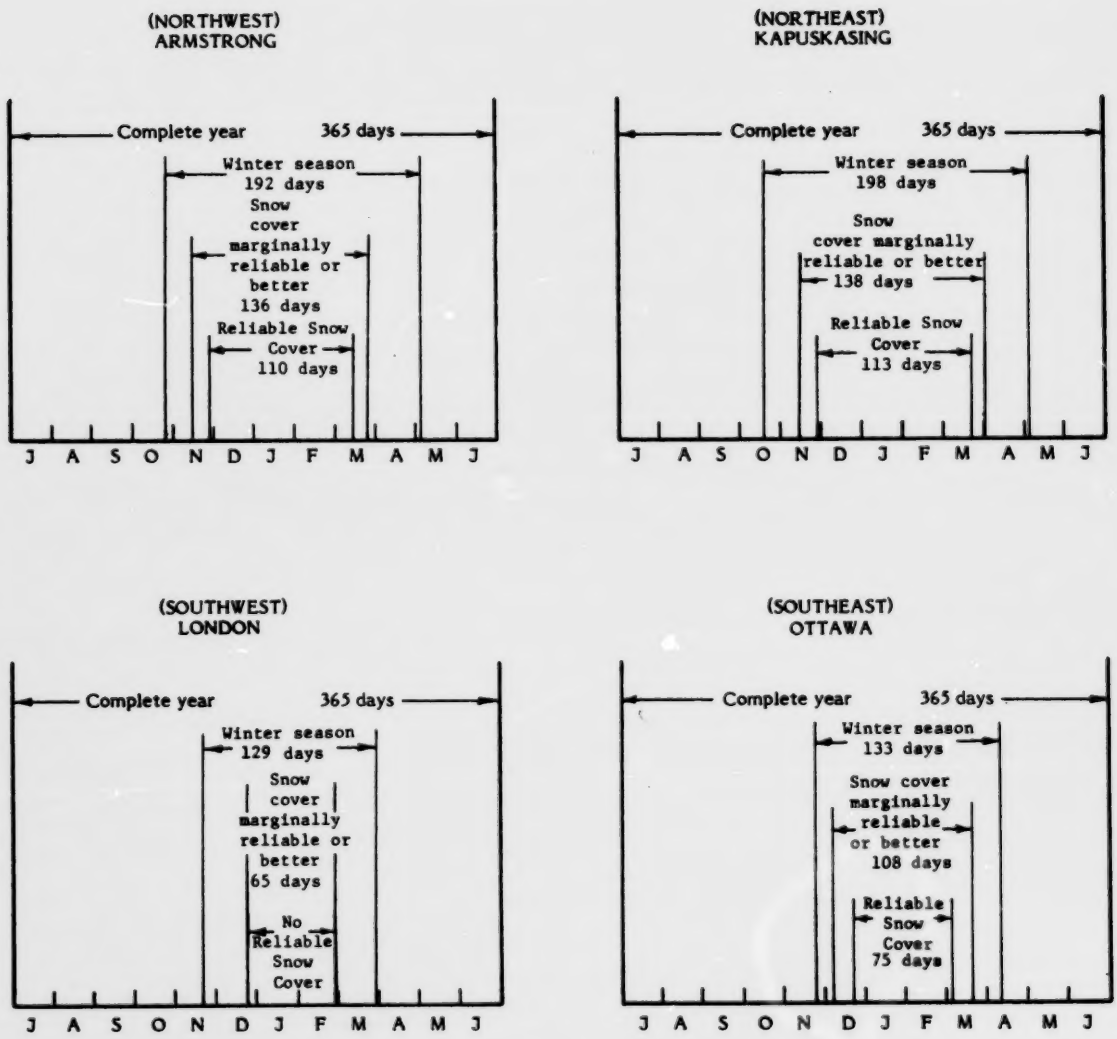


Figure 1

Comparison of length of winter season with periods of unreliable, marginally reliable, and reliable snow cover at four representative stations

III WINTER OUTDOOR RECREATION IN ONTARIO URBAN CENTRES

1. INTRODUCTION

The major thrust of this project was to examine the current situation with respect to winter outdoor recreation in urban centres in Ontario. Consequently, information was gathered from municipal parks and/or recreation agencies with respect to five basic areas:

- perceptions of the nature of the winter season
- available resources
- activities
- policies, by-laws, regulations and philosophy
- future trends.

A sample of 36 municipalities was chosen, based on the following criteria:

- range of population size (from over two million to six thousand)
- geographical distribution through the Province
- climate
- the existence of a public parks and/or recreation agency within the municipality.

An attempt was made to get as wide a range as possible of different sizes of municipalities spread throughout the Province's different climatological regions, with distribution being roughly proportional to regional population distribution. Interviews were conducted with senior management personnel in the municipal parks and/or recreation agency.[1]

It is important to note that the information provided by the respondents consists to a great extent of subjective perceptions and personal opinions. It is felt, however, that, because the respondents were senior personnel within their respective agencies, they should have a reasonably accurate knowledge of their municipalities' situations and insight into future possibilities and trends.

One topic that was originally of great interest to the researchers was that of budget. Questions were formulated which dealt with total agency budget, amount spent on winter activities, capital and programming costs, etc. After a few initial interviews, however, these questions were eliminated. The respondents were aware of their agencies' budgets, but it proved almost impossible for them to break them down by season, activity, capital works, programming, etc. In some cases, the information was simply not available, while in other cases gross amounts could not be split up into meaningful figures. For

1. It must be noted that the information in the tables presented in this chapter represents Winter 1977 data. Complete information on data and data sources can be found in Wilkinson and Lockhart (1977).

example, a path might be constructed through a park to be used for year-round walking and winter cross-country skiing; no means of dividing up the capital cost was apparent. It did become obvious, however, that budgets related to outdoor facilities and park development in general were based largely on provision for summer use. Very little thought was given to the relationship between the annual budget and seasonal variations in use or the effects of capital development or programming funds allocated to a facility that could serve both summer and winter functions.

2. THE NATURE OF THE SAMPLE

Thirty-six municipalities were included in the sample, accounting for a total (1973) population of 4,142,929 (or 69.5% of the total population of all municipalities in Ontario with a population of 5,000 or more). (See Table 3.) To be consistent with Ontario Recreation Survey data, the minimum size of a municipality to be considered for inclusion in the sample was 5,000. The population of 18 municipalities were 5,000-49,999; 5 were 50,000-99,999; 10 were 100,000-499,999; and 3 were 500,000 or more. The smallest municipality was Dryden (population 6,810) and the largest Metropolitan Toronto (population 2,081,724). To be consistent with the Ontario Recreation Survey data, 1973 population figures have been used throughout.

Municipalities were chosen in each of the 6 climatic regions noted above in the chapter on climate: 4 municipalities in the Southwestern region; 21 Southern; 3 Eastern; 4 Central; 2 Northeastern, and 2 Northwestern. Population totals for the municipalities sampled in each region are roughly proportional to the total urban population in each region.

3. THE NATURE OF THE WINTER SEASON

The respondents were asked their opinions on four questions concerning the number of weeks for their municipalities of:

- adequate snow cover for winter outdoor recreation activities
- natural ice (for outdoor skating rinks)
- frozen waterways (for skating rinks and other uses such as ice boating, ice fishing, etc.)
- peak winter.

As these questions were attempts to elicit personal perceptions about these parameters of winter outdoor recreation, the interviewers let the respondents define the various terms (e.g., adequate, peak) for themselves.

Table 3

WINTER SEASON IN THE SAMPLE MUNICIPALITIES, 1977

Municipality (By Climatic Regions)	Population (1973)	Area (Sq. Mi.)	Respondents' Perception of Their Municipality's Winter Season				Climatological Data	
			Weeks of Adequate Snow Cover	Weeks of Natural Ice	Weeks of Frozen Waterways	Weeks of Peak Winter	Weeks of Snow Cover Marginally Reliable or better	Weeks of Total Winter Season
SOUTHWESTERN	199,250	46	4	0	0	12	0	17
Windsor	54,782	13	8	3	6	10	0*	18*
Sarnia	43,767	31	5	5	7	8	2*	17*
Welland	10,576	3	8	0	8	8	0*	16*
SOUTHERN	2,081,724	243	10	?	?	12	6	17
Metropolitan Toronto	676,363	38	?	5	?	8	6	17
City of Toronto	527,564	68	8	6	?	8	6	17
North York	348,266	72	?	?	?	?	6	17
Scarborough	282,998	48	6	?	5	8	6	17
Etobicoke	141,193	9	8	6	?	8	6	17
York	105,340	8	?	?	?	?	6	17
East York	303,794	47	5	4	6	8	0	17
Hamilton	232,660	62	7	6	?	8	9	18
London	121,441	52	12	10	7	12	8*	20*
Kitchener	59,289	11	10	8	?	16	11	18
Kingston	56,349	21	15	10	12	16	10*	19*
Peterborough	34,812	9	10	8	8	16	10*	17*
Belleville	32,160	107	12	3	?	12	8*	20*
Halton Hills	28,678	11	12	6	3	12	12*	21*
Barrie	28,360	38	5	5	?	8	0*	17*
StoneyCreek	25,019	9	6	3	6	8	12*	20*
Woodstock	24,048	8	6	6	4	8	12	20
Stratford	21,698	9	15	12	12	16	12	21
Orillia	20,522	47	3	?	8	8	2*	17*
Port Colborne	15,667	105	10	12	?	12	8*	20*
Milton								
EASTERN	292,983	43	12	10	14	16	15	19
Ottawa	44,672	24	12	10	8	14	13	18
Cornwall	15,064	4	15	9	12	18	15	21
Pembroke								
CENTRAL	95,094	102	13	10	8	?	17	22
Sudbury	77,501	86	12	10	12	12	15	22
Sault Ste. Marie	46,409	108	11	12	12	12	17	22
North Bay	9,363	271	16	12	10	16	16	23
Huntsville								
NORTHEASTERN	41,957	912	24	12	15	24	19	26
Timmins	12,526	32	20	20	10	20	20	28
Kapuskasing								
NORTHWESTERN	105,954	125	12	12	12	16	16	23
Thunder Bay	6,810	7	25	25	18	28	16*	24*
Dryden								
Total Population	4,142,929							

? Not Known

* Estimate based on data from nearest climatological station.

1. Source: Crowe et al. (1973b)

Precise climatological data (i.e., Crowe et al. (1973b) were not discovered until after the interviews had been conducted; therefore, the available data are not exactly comparable with the questions asked in the interviews, but in general the patterns perceived by the respondents are relatively consistent with actual climatic data. As was suggested above in Chapter II, the fact that the climate of Southwestern Ontario, in particular, and Southern Ontario, to a lesser extent, is not reliable in terms of conditions suitable for many winter outdoor recreation activities was generally well-recognized by the respondents.

4. RESOURCES FOR WINTER OUTDOOR RECREATION ACTIVITIES

(a) Introduction

The respondents were asked to describe the urban-based resources for winter outdoor recreation activities within the boundaries of their municipalities. (See Table 4.) In some cases, the respondents were able to give detailed figures on the number of particular facilities or resources available. For example, many knew exactly how many playgrounds were available for winter use. In other cases, the respondents either did not know or it was not possible to give exact numbers because of the nature of the facility or resources. An example of the latter instance would be the number of natural tobogganing or sliding hills. This problem usually became more acute the larger the population and/or the area of the municipality. In such cases, less precise respondents (e.g., "numerous", "some") were recorded. The respondents were also asked to comment on trends in provision or availability of the facilities or resources (i.e., increasing or decreasing). In some cases, respondents noted that particular facilities did not exist at present, but that there were concrete plans to provide them in the near future. Except where noted, the facilities or resources mentioned refer to the public sector. It is important to emphasize that this information is subjective and based on personal opinions, albeit of senior management personnel.

The most common resources for winter outdoor recreation were:

- unstructured areas
- sliding/tobogganing slopes or undesignated downhill skiing slopes.
- outdoor natural ice surfaces
- trails for cross-country skiing, walking, hiking and, to a lesser extent, snowmobiling.

A number of factors can be identified which are the major influences affecting the availability of urban-based winter outdoor recreation resources:

Table 4

RESOURCES FOR WINTER OUTDOOR RECREATION ACTIVITIES IN THE SAMPLE MUNICIPALITIES, 1977

Municipalities (By Climatic Regions)	Outdoor Ice				Sliding Hills or Slopes				Skiing Hills or Slopes				Cross-Country Skiing									
									Designated Areas													
	Natural Ice Rinks	Artificial Ice Rinks	Artificial Ponds	Natural Waterways	Natural	Modified Natural	Major Artificial	Minor Artificial	Junior	Intermediate	Senior/Major	Undesignated Areas	Formal Trails	Informal Areas	Walking/hiking Trails/area	Fitness Trails/ Vita Parcours	Snowshoeing Areas	Snowmobile Areas	Usable Children's Playgrounds	Unstructured Areas	Beach/Viewing Areas	Sleigh Ride Trails
SOUTHWESTERN																						
Windsor		2					2						S	S↑	S	PR	FT		73	N		
Sarnia		1		1				2					S↑	S↑	S	2			35	N	S	
Welland	15		4		1			1								1		S	15	S	S	
Leamington					1														11	S	S	
SOUTHERN																						
Metropolitan Toronto					N	1		N	1	1		N		N	N	2	N		S	N	N	1
City of Toronto	5	30	1		N	2		N	1			N		N	N	2	S		N		N	
North York	120	12			N			N	1	1		N	1	N	S	FT	N		N	N		
Scarborough	100+		1		N	2	2	N	S			N	1	N	N	1	N	1	S	N	N	1
Etobicoke		18		1	N		1	S		1				N	N	1			N	N	S	PR
York	50				N	6		S	S			N	3	N	N	1	N		S	N		
East York	27	1			S		1	N		1		S		N	N		S	3	N	N	N	
Hamilton	18	8		8	N	S		S↑	1			S	1	N	S	1	N		S	N		2
London	N	1		S	S	1	1	N	1	1	FT	S	1	N	N	1	S	2	N	N	N	PR
Kitchener	36			1	S		FT	S	1	FT		1	1	N	S	FT	N		N	N	N	PR
Kingston	40			2	S	1		S	1				PR	N	N	1	N	S	S	N	S	
Peterborough	35			8	S	1	1	S	1					N	N	N	S		S	N		
Belleville	14			S	3	1	1	S	FT			S		N	S	S	S	N	S	N	S	PR
Halton Hills	8			1	S				1			S	2	S	S	1	S	1	S	N	4	PR
Barrie	15				S	1	FT	S	1			S	S	1	S	1	N	6	N	N	S	
Stoney Creek	10			1	S			FT					1	S	S	1	S		S	N		
Woodstock	3			FT	1				1	PR		S	FT	S	N	1	N		N	N		PR
Stratford				2		1		S				S		N	S	N	N		S	N	N	
Orillia	10				S		1	S			1	S	FT	S	N	N	N		S	N	S	PR
Port Colborne				1	S			S														
Milton																						
EASTERN																						
Ottawa	63			N	N				1			S		N↑	S↑	1	S		120	N	S	
Cornwall	21			FT	N		2		1				S	S↑	S	FT			15	S		
Pembroke	4			1												FT			4	S		
CENTRAL																						
Sudbury	36				N	1		S	1	1	1	S	S	N	N	1	N	1	S	N.	S	S
Sault Ste. Marie	70				2				1	PR	PR	S	2	4	2	1	2	1	S	N	2	PR
North Bay	18	4		N	N	1	1	S	3	3	3	S	N	N	N	1	N		18	N	N	PR
Huntsville	3											N		N↑					2	S		
NORTHEASTERN																						
Timmins	42			FT	N	FT			FT			N	FT	S↑	N	FT	S↑		35	S	S	
Kapuskasing	7					1↑						N	PR↑		S		N	PR		S	S	
NORTHWESTERN																						
Thunder Bay	100+			2	1		1		PR	PR	PR	2	2	5	2	2		N↑	N	2	1↑	1
Dryden	3				2							N							4	S		

N Numerous
S Some
↑ Increasing importance
PR Private sector
FT Future

- available natural features (e.g., hills, woooded areas, linear areas, large tracts of public lands)
- adequate climatic conditions (as noted above, including amount of snow cover, temperature, consistency of conditions)
- local practices (policies, philosophy, by-laws, priorities, etc.).

As noted above, it is very difficult to separate natural features and climate; therefore, these two factors will be considered in one section.

(b) Natural Features and Climate

Where topography and climate permitted, sliding/tobogganing slopes and downhill ski slopes were available within most of the municipalities. In most cases, numerous natural areas were available for use; these were both public and private lands. As well, 14 municipalities had developed at least one modified slope and 9 municipalities had at least one artificial slope. In addition, 2 municipalities were planning to build artificial slopes in the near future. Berms or mounds suitable for sliding by small children were provided as part of overall park development in 20 municipalities. Seldom, however, was the motivation for providing berms based primarily on encouraging winter use of parks. Usually, berms were originally constructed for landscaping purposes; however, trees or other plantings associated with berms often inhibit winter sliding activities.

Areas for downhill skiing were less frequently available than sliding and tobogganing slopes. Eighteen municipalities had at least one junior downhill area, 11 had intermediate and 5 had at least one senior or major hill. (In some cases, these facilities were privately owned and/or operated.) Four municipalities were planning to develop urban-based ski areas in the future.

In addition to the traditional hill-oriented activities of skiing, sliding, and tobogganing, 3 municipalities permitted (winter and summer) hang-gliding from designated hill areas. Usually, other hill-oriented winter activities were given priority over hang-gliding in those instances in which competition for time and space became an issue.

Many municipalities have developed and/or encouraged the use of natural linear recreation areas capable of supporting cross-country skiing, walking, jogging, snowshoeing, snowmobiling, sleigh-riding, bicycling, horseback riding, and the relatively new activity of vita parcours.[1] In most cases, only moderate resource development is necessary to provide good quality linear winter activities, providing that the climate and natural features are adequate. The natural features complementary to the above winter resources and activities were generally available in a greater proportion of the municipalities than was the case for sliding, tobogganing or downhill skiing.

1. A vita parcours (literally "run for life") is a trail, usually in the form of a loop, along which a person runs, stopping at designated points to do particular exercises in accordance with posted instructions.

When linear winter areas and activities are being developed and promoted, care should be taken to ensure the possibility of compatible multiple use or adequate separation where necessary. For example, a path should be designed so that it could be used by cross-country skiers in the winter and walkers in the summer. Similarly, looped trails are preferable to trails with different beginning and ending points in order to avoid congestion. Also, trails should be wide enough to allow for two-way traffic or passing. These latter two points are particularly important for such activities as cross-country skiing and jogging.

It is also important to note that the impact of each facility and activity on the physical environment and the overall character of the recreation area should be assessed and accounted for through sound planning, design, maintenance, and resource management. For example, in terms of the physical environment, snowmobiling may be incompatible with sensitive ecosystems, while in terms of the overall character of a particular recreation area snowmobiling may be incompatible with such activities as cross-country skiing, walking, nature appreciation, etc.

In terms of the climatic regions, the most outstanding variations in the availability of resources occur in the Southwestern region. Based on past experiences, the municipalities of this region have placed less emphasis on the provision of facilities and resources that are dependent to a great extent on climate. This is particularly true for outdoor ice rinks, tobogganing hills, and skiing hills. Given the climatic situation and the generally flat topography of much of the region, this is probably a rational decision. It is interesting to note that both Windsor and Sarnia have indicated that cross-country skiing is gaining importance, in terms of both formal and informal trail areas. It should be noted, of course, that cross-country skiing can take place on generally flat or rolling land or on trails designed for walking and that it does not require a continuous snow cover.

There did not appear to be any significant relationship between the range of types of resources and the size of the municipality or the region in which it was located (with the above-mentioned exception of the Southwestern region). Nor did there seem to be a very strong relationship between the number of facilities of a particular type and the population of the municipality. For example, North Bay and Timmins have approximately the same population (and the same climate), but Timmins had more than twice as many natural ice rinks. A more detailed survey, however, may reveal differences, because many of the responses were so subjective (e.g., "numerous", "some"). Such patterns may, however, shift radically in the future. There would appear to be a trend in the attitudes of the respondents indicating a more serious view towards the significance of urban winter outdoor recration. In time, this shift may produce differences as a variety of potential resources in the various municipalities are taken advantage of by certain municipalities.

Because indoor urban recreation resources were not examined, no statements can be made about the total set of available recreation opportunities. If this were done, it is possible that there would be some significant differences among the regions. Those areas with either very mild climates or very cold climates would probably depend to a greater extent on indoor facilities for winter activities. Also, the participation patterns in winter activities might vary when both indoor and outdoor participation is examined.

(c) Local Practices

A number of local practices can be cited as influencing the availability of resources:

- land acquisition practices (e.g., securing high quality natural features)
- quality of planning (which influences the types, quantity, quality, distribution, etc. of the resource base)
- quality of site design (to provide the best balance and range of development for winter and summer activities)
- regulations that discourage/prohibit or encourage certain uses and users, resources, or development
- promotion of resources, programmes, and range of uses
- access (e.g., snow-plowing of parking lots and pathways, placement of snowfences, visibility of key recreation features in park areas, location of recreation areas).

Each of these practices will be examined in some detail.

Land acquisition practices varied greatly among the municipalities. A major influence was the geographical situation of the particular municipality. For example, municipalities in northern areas are surrounded by vast areas of non-urbanized land, often in the form of Crown Land. Because their residents could easily and quickly take advantage of these resources, these municipalities were reluctant to acquire large tracts of land within their boundaries for recreation. In southern areas and particularly in large urban areas, the municipalities were usually very concerned about acquiring available land, often via the local Conservation Authority. A major influence in these areas is, of course, the extremely high cost of urban land. In most cases, land acquisition budgets were small. Municipalities are often forced to seek special grants from the Provincial Government when large blocks of urban land are put on the market; such was the case in Toronto with the purchases of the Mercer Reformatory and Dunlop Rubber Factory sites. Regardless of such geographical or population size distinctions, however, many municipalities are simply not taking advantage of available land. Others own the land, but are not making great efforts to make it usable or accessible to the public. Once again, budget deficiencies are often the basic problem.

The most obvious trend throughout all regions and sizes of municipalities was the lack of adequate site planning. The need to use urban recreation areas and the inherent potential of these resources was often overlooked or, at best, treated superficially and in a non-comprehensive manner.

Although not examined in great detail, site design would also seem to be a major area of deficiency. Many municipalities appear to take a very traditional approach to site design, placing emphasis on such facilities and features as grass, trees, baseball diamonds, football fields, and tennis courts. Playground equipment is usually of the very traditional metal, mass-produced variety. The majority of changes involved the use of some railroad ties or a few concrete sewer pipes for climbing through. Creative playgrounds were rare, especially in the smaller municipalities, and adventure playgrounds virtually non-existent. Many municipalities seemed to be unaware of such developments as new types of surfaces for tennis courts which are suitable for use as skating rinks in the winter. Basically, recreation areas are designed with only one season in mind: summer. Little thought is given to how, for example, a walkway can be modified to make it more suitable for cross-country skiing. This topic merits extensive further research.

It would appear that many policies and regulations that encourage or discourage particular uses or users were quite unique as no trends could be seen. Perhaps the best example had to do with outdoor ice rinks.

The constituent municipalities of Metropolitan Toronto provided an interesting example of how certain policies are not strongly influenced by either natural factors or population size. The mix of natural and artificial outdoor ice rinks varied greatly. (See Table 4.) For example, both the City of Toronto and North York had both types of rinks. Scarborough and York depended completely on natural ice rinks, and East York almost completely. In contrast, Etobicoke depended almost entirely on artificial ice rinks. (Most of the other municipalities throughout the Province, with the exception of the Southwestern region, depended almost entirely on natural ice rinks.) These contrasting policies were each based on past experience, budget considerations, differing personal opinions, and political pressures.

Most municipalities had outdoor artificial or natural ice rinks or skating surfaces available for public use. Of the 36 municipalities sampled, 8 had no natural ice rinks. Three of the 8, however, provided artificial outdoor rinks and 3 provided skating areas on natural ice surfaces. Only 2 of the smaller municipalities had no public outdoor rinks.

In many cases, outdoor rinks were developed in pairs. Often one of the pair was to be used only for non-hockey activities. An interesting variation is occurring in Kingston, which is developing an approach so as to maintain 3 rinks at each location, one for hockey (with boards), one for pleasure skating, and one small surface for young children. This concept will replace the past approach of providing numerous local rinks throughout the city. The triple rinks will be located strategically in 4 or 5 areas at district parks. The level of maintenance--and therefore the quality-- and visibility will understandably increase as compared to past practices and it is expected that use should increase greatly.

In most cases, municipalities were supplying as many outdoor artificial or natural ice surfaces as they could afford through various means. Seldom was there a decision to concentrate available resources (in terms of either funds or manpower) to provide fewer, but better quality, rinks. This pattern existed despite the fact that only in northern and eastern areas of the Province will the climate support good quality natural ice rinks unless a great deal of effort is expended to maintain them. Only 5 municipalities considered that fewer, but better quality, rinks should replace the current pattern. Most municipalities would prefer to replace outdoor rinks with arenas rather than concentrate on better quality outdoor rinks. (See Table 5.)

Only 10 municipalities used local neighbourhood volunteers to develop and maintain local natural ice rinks. In 6 other cases, responsibility was shared between the municipality and local resident volunteers. Exactly half (18) of the municipalities assumed primary or total responsibility for local rinks. In 15 municipalities, the parks and/or recreation department provided natural ice rinks in non local parks. There appeared to be no significant relationship between volunteer maintenance and better climatic conditions as might be expected. The policy or philosophy of the individual departments was the most important factor.

Table 5

POLICIES, BY-LAWS, REGULATIONS, AND PHILOSOPHY OF MUNICIPAL PARKS AND/OR RECREATION AGENCIES IN THE SAMPLE MUNICIPALITIES, 1977

Municipalities (By Climatic Regions)	Ice Rinks						Plow vital/community pathways in major parks	Plow parking lots in major parks	Plow main pathways in major parks	Playground equipment removed in winter	Snow fences etc. to buffer dangerous situations	Snow fences to protect fields in spring
	Residents responsible for local rinks	Department responsible for local rinks	Shared responsibility for local rinks	Department responsible for non-local rinks	Concentrate of fewer, better rinks	Concentrate on arenas/ covered outdoor rinks						
SOUTHWESTERN												
Windsor		•				A	•	•	•			
Sarnia		•				A	•	•	•	L		
Welland			•			A					•	
Leamington						A						
SOUTHERN												
Metropolitan Toronto							•	•				
City of Toronto	•			•			•	•	•	•	•	•
North York	•			•	•		•	•		•		•
Scarborough	•						•	•				•
Etobicoke					FT		•	•	•	•	•	•
York		•					•	•		•		•
East York		•				C	•	•	•	•	•	•
Hamilton			•	•			•	•		•		•
London	•						•	•	•	•	•	•
Kitchener	•			•	•		•	•		L	L	L
Kingston		•					•	•	•	•	•	L
Peterborough	•			•			•	•		•		L
Belleville		•		•		A	•	•	•	•	•	L
Halton Hills		•		•	•	A	•	•		•	L	L
Barrie		•		•		A	•	•		L		L
Stoney Creek			•			A						
Woodstock	•			•		A	•	•	•	L	L	L
Stratford	•			•		A						
Orillia		•		•		A	•	•	•			L
Port Colborne				•		A						
Milton				•		A		•		•		•
EASTERN												
Ottawa			•			A		•		•		•
Cornwall		•				A	•	•	•	•	•	•
Pembroke		•				A						•
CENTRAL												
Sudbury	•			•				•		•		L
Sault Ste. Marie	•		•	•	•	C	•	•		•	L	•
North Bay		•								•		
Huntsville	•	•				A				•		
NORTHEASTERN												
Timmins		•				A		•	•			
Kapuskasing		•				A				•		•
NORTHWESTERN												
Thunder Bay		•				A		•		•		
Dryden			•			A				•		•

• Yes
L Limited
FT Future
A Arena
C Covered outdoor rink

Another important example of great differences among the municipalities was the policy towards equipment in children's play areas. Most respondents described their children's play areas as being usable in the winter season, despite the fact that over half of the municipalities dismantled and stored the key elements of play apparatus (e.g., swing seats, teeter-totter seats, slides, picnic tables, benches). A number of respondents mentioned potential safety problems in winter use of such equipment. Research has shown, however, that there is little evidence to support the belief that play areas are more dangerous in the winter (Wilkinson and Lockhart (1976)). Others said that the equipment was removed as a matter of course for regular painting and maintenance, but many said that it was simply not returned until the spring. It was surprising, however, that a few respondents did not know why the equipment was removed, other than that it was a traditional practice; most of them assumed that all municipalities remove all equipment. (As a result of being interviewed for this study at least one municipality has reversed its policy and has stopped removing the equipment.) There would appear to be a trend towards leaving the equipment intact all year and only removing temporarily those pieces of equipment that are in need of repair. The cost savings can be significant. Of course, there is the additional factor that use will probably increase if the equipment is left out. (Observation has shown that playgrounds will be used in the winter if the equipment is available.)

The respondents were also asked about their polcies and practices concerning snow-plowing the parking lots and paths in parks, and the use of snowfences. (See Table 5.) In general, there was a greater tendency for municipalities in Southwestern and Southern Ontario to snow-plow and to use snowfences.

5. ACTIVITIES

(a) Introduction

Nearly a century ago, winter was providng the opportunity for fresh air, physical activity, and fun. An exhibit at the National Museum of Man in Ottawa, entitled "Images of Early Sport in Canada" recently displayed a photograph with the caption "Race on Ice, Bicycles vs. Skates, 1881". Here is another activity that could be added to the listing of innovative winter activities uncovered in Phases I and II of this study. Certainly there are many more.

Participation in winter activities - both traditional and innovative - is increasing. One indication is the increased sales of sporting equipment for winter use; another is increased coverage of winter activities by the media. This section of the report presents a survey of existing activities in Ontario's urban parks and of perceived trends in the winter use of these parks.

(b) The Ontario Recreation Survey[1]

As part of the tourism and Outdoor Recreation Planning Study, the Ontario Recreation Survey was conducted by the Ontario Government to gain information on the leisure and recreation patterns of the Ontario population, based on a random sample of 10,234 residents of the Province 12 years of age and older. (See Tourism and Outdoor Recreation Planning Study Committee (1973, 1974).)

Although somewhat dated, data from the Survey indicated considerably high levels of participation in a set of winter outdoor recreation activities (i.e., snowshoeing, cross-country and downhill skiing, snowmobiling, ice skating, ice hockey, and tobogganing). The patterns were somewhat complex, but participation in these activities was strongly related to the following characteristics:

- geographical location
- community size
- sex
- age
- education
- occupation
- household income
- dwelling type.

It would appear that the activities with the most potential for future growth in participation rates by urban dwellers in Ontario are cross-country skiing, (indoor or outdoor) skating, (junior) downhill skiing, and tobogganing.

The major barrier to increased participation appeared to be lack of time. If the time available for leisure increases in the future—and there is considerable evidence to suggest that it will—then the demand for both urban and non-urban recreation opportunities will increase. Particular pressure will then be placed on municipal parks and recreation agencies. Some of the major barriers to increased participation had to do with the common characteristics of urban recreation resources: lack of opportunities near home; inadequate, poor quality, or not challenging enough facilities. Municipal agencies will be forced to carefully evaluate their resource base, planning and design systems, and programming in order to cope with these anticipated increased levels of participation.

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1. See Wilkinson and Lockhart (1977) for a detailed analysis of the results of the Ontario Recreation Survey.

(c) Winter Outdoor Recreation in Ontario Municipalities

The most commonly available resources (see Table 6) were:

- open unstructured areas
- sliding/tobogganing slopes
- undesignated downhill skiing slopes
- outdoor natural ice surfaces
- trails for cross-country skiing, walking, hiking, and snowmobiling.

The major influences on the availability of urban-based winter recration resources were:

- available natural features (e.g., hills, wooded areas, linear areas, large tracts of public lands)
- adequate climatic conditions (e.g., snow cover, temperature, consistency of conditions)
- local practices (policies, philosophy, by-laws, priorities).

A number of factors were found to influence winter outdoor recreation activities:

- supply or availability of opportunities in terms of both resources and programmes
- size and character of the park
- design
- planning
- location of resources
- user perception of availability of resources and personal ability to participate
- user interest
- climate
- topography and other natural features
- size of municipality (in terms of both area and population).

It would appear, however, that local policies were the major determining factor, once the effects of natural features and climate have been accounted for.

Table 6
WINTER OUTDOOR RECREATION ACTIVITIES (IN PARKS AND OTHER MUNICIPAL RECREATION AREAS) IN THE SAMPLE MUNICIPALITIES, 1977

Municipalities (By Climatic Regions)	Skating				Skiing																			
	Pleasure	Shinny (Unorganized Hockey)	Organized Hockey	Ringette	Instructional	Downhill	Cross-country	Instructional	Tobogganing, sledding	Hang-gliding	Walking, hiking	Jogging	Nature lore, birdwatching	Snowshoeing	Snowmobiling	Sleigh-riding (Horse-drawn)	Playground activities	Winter carnival	Field sports	Snowmobile races	Picnicking, camping
SOUTHWESTERN																					
Windsor	•	•	•	•			•		L		•	•	L*		•	L	•	*		•	
Sarnia	•	•							•		•	•					•				
Welland	•	•									L	L									
Leamington																					
SOUTHERN																					
Metropolitan Toronto	•	•	•	•		•	*	•	*	L	•	•	L	L	•		•	•	•	•	L
City of Toronto	*	•	L		•	•	•	•	*		•	L	•	L			•				•
North York	*	•	L				•		*	•	•	•	•	L	•		•				L
Scarborough	•	•	*				•		*		•	•	•	L			•				
Etobicoke	*	•	L	•	•	•	•	•	*		•	L	L	L	•		•				
York	*	•					•		*		•	•	•	L			•				
East York	*	•	L				•		*	L	•	•	•	L	L	L	•	L			
Hamilton	*	•	L				•		*		•	L	•	L			•				
London	*	•	L			L	•		•		•	•	•	L	*		•	•			
Kitchener	*	•	L				•		•		•	•	•	L		L	•				
Kingston	*	•				L	•		•		•	•	•	L	L		•				
Peterborough	*	•	L				•		•		•	•	•	L			•				
Belleville	*	•				L	•		•		•	•	•	L			•				
Halton Hills	*	•					•		•		•	•	•	L			•				
Barrie	*	•					•		•		•	•	•	?			•				
Stoney Creek	L	•					•		•		•	•	•	L			•				
Woodstock	•	•					•		•		•	•	•	L			•				
Stratford	•	•					•		•		•	•	•	L			•				
Orillia	•	•					•		•		•	•	•	L			•				
Port Colborne	L	•					•		•		•	•	?	L			•				
Milton	*	•	•	•	•	L	*	•	*		•	L	•		•		•				L
EASTERN																					
Ottawa	•	•	L				•		•		•	•		•			•				
Cornwall	•	•		L			•		•					L							
Pembroke	•	•	•	•			•		•					•							
CENTRAL																					
Sudbury	*	*	*	L	•	•	•	•	•	•		L	L	L	•	L	L	•		L	L
Sault Ste. Marie	•	•	*	L		L	•	•	•					L	•	L	L	•		L	L
North Bay	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	L	•	•
Huntsville	•	•	•	•	•	•	•	•	•	L		•		•	•	•	•	•		•	
NORTHEASTERN																					
Timmins	*	*	•	•			•	•		*		•	L				•	*			
Kapuskasing	•	•		•			•	•				•	•	•	*			•		•	
NORTHWESTERN																					
Thunder Bay	L	•	•	•	•	L	•	•	•	•		L	•	•	•	•	L	•	•	•	•
Dryden	•	•	L	L			•		•					•			L	•			

• Yes
* Major Activity
L Limited
↑ Increasing
↓ Decreasing
? Not Known

The most popular activities, in order, would appear to be:

- tobogganing
- pleasure skating
- outdoor shinny (unorganized hockey)
- cross-country skiing
- use of children's playgrounds.

(See Table 7.) The range of activities was extensive and much greater than originally imagined by the researchers. Of particular interest were a number of innovative activities:

- a variety of field sports (snowshoe softball, snowball, snowshoe soccer, snowshoe football)
- snolf (winter golf)
- winter children's playground programmes.

Activities which are usually considered to be non-winter activities gaining popularity including hang-gliding, picnicking, and urban sightseeing.

There was a great deal of variation by region in participation. In particular, participation in Southwestern Ontario was usually lower than the other regions in most activities, because of the lack of variations in local topography and because of an inadequate and inconsistent climate. The exception was playground activities; participation was generally higher in Southwestern Ontario, a trend which is related to a combination of milder climate and perhaps the lack of other opportunities. Participation in most winter-oriented activities generally increased to the north, as did a tendency towards more traditional attitudes about recreation on the part of municipal agencies.

(d) Trends

(i) Introduction

Table 8 summarizes perceived trends in winter activities as compiled during the first phase of this study.

(ii) Cross-Country Skiing

There was general agreement that the popularity of cross-country skiing has not yet peaked. Its popularity is due to a number of factors;

Table 7

MOST POPULAR WINTER OUTDOOR RECREATION ACTIVITIES
IN THE SAMPLE MUNICIPALITIES, 1977

Activity	Number of Municipalities with participation rated high, moderate and limited (n = 36)		
	High	Moderate	Limited
Tobogganing	20	8	2
Pleasure skating	18	16	2
Shinny (unorganized hockey)	14	22	0
Cross-country skiing	14	17	2
Use of children's playgrounds	1	17	9

Table 8

SIGNIFICANT TRENDS IN PARTICIPATION
IN WINTER OUTDOOR RECREATION ACTIVITIES
IN THE SAMPLE MUNICIPALITIES, 1977

Activity	Number of municipalities in which the respondent mentioned a perceived trend	
	Increase	Decrease
Cross-country skiing	13	0
Jogging	8	0
Snowshoeing	7	0
Walking/Hiking	5	0
Downhill skiing (within urban areas)	5	0
Nature lore (particularly birdwatching)	3	0
Snowmobiling	1	2
Winter carnivals	0	1

- a shift in participation by downhill skiers because of problems involved in downhill skiing (e.g., expense, crowding, distance to facilities)
- a link with the "back to the land" and fitness movements
- increasing interest in spontaneous, unorganized, individual or small group activities
- increasing numbers of young adults as the 'baby boom' grows up
- relatively low cost of equipment and use of facilities
- little training required
- easy accessibility to facilities near urban areas
- suitability of climate and topography in much of Ontario
- high levels of promotion by both supply agencies and manufacturers
- a possible "fad" component.

Many of the respondents indicated that their agencies intended to increase the promotion of cross-country skiing areas within their parks. A major factor for many is that the costs involved for the agencies are relatively low. Some also felt that there might be a slight increase in such activities as winter picnicking and camping associated with cross-country skiing. Phase II has demonstrated not only an increase in these activities, but such an increase in cross-country skiing itself that complaints of over-crowding of skiing areas were not uncommon.

(iii) Jogging

Jogging appeared to be gaining momentum as both a fitness and a leisure activity, particularly in the more urbanized parts of Ontario. Its increasing popularity is a result of several factors:

- low cost
- ample close-at-hand opportunities
- the fitness movement (e.g., "Participaction")
- increasing numbers of young adults
- increasing interest in spontaneous, unorganized, individual activities
- little training or skill required to begin participation
- involvement possible for most people
- a possible "fad" component.

Jogging is likely to continue to become more popular as the emphasis on leisure activities for fitness purposes becomes more important. The major barrier to jogging in winter is, obviously, climate. Many of the respodents, however, felt that this barrier could be overcome to a certain degree if paths and roadways within parks were better cleared of snow and ice.

(iv) Snowshoeing

Snowshoeing was much more popular outside of large urban areas, possibly because of traditional patterns of use in rural and northern areas. It was difficult to learn very much about participation as most respondents could not provide much insight into levels of use. The basic reason, of course, is that snowshoers can be very independent of such things as trails, paths, etc. and tend to participate in small groups or alone, as opposed to the more linear orientation and small-group nature of cross-country skiing. Sales of snowshoes have increased dramatically in recent years and are likely to continue to do so. Interest in snowshoeing appears to be linked to a number of similar factors as have been noted for cross-country skiing and jogging:

- increased popularity of cross-country skiing
- the "back to the land" and fitness movements
- increasing numbers of young adults
- increasing interest in unorganized, spontaneous, individual or small group activities
- increased use of second homes in winter
- low cost
- easy accessibility to facilities near urban areas.

One barrier to snowshoeing in or near urban areas is the preference for areas with deep snow and relatively "natural" surroundings; very few areas within major cities meet these criteria. As mentioned above, a number of "new" field sports are being played in a number of communities. These are basically variations on traditional summer sports (e.g., baseball, rugger, soccer, football, golf) and often involve the use of snowshoes, usually the small, plastic type designed for children. The growth potential for snowshoeing as a result of these sports is quite significant.

(v) Walking and Hiking

Walking and hiking were not as popular in winter as in the other seasons, snow and temperature being the main barriers to participation. Snowshoes can overcome some of this problem, but probably only for a small proportion of the population and for a limited proportion of walking and hiking outings within urban areas. Lack of deep snow and the discontinuity of snow cover (e.g., sidewalks, roads) limit the usefulness of snowshoeing in urban areas. The person who hikes in other seasons may be a cross-country skier or snowshoer in the winter. There was, however, an apparently increasing interest in winter urban sightseeing, in both information and formal terms. Examples of the popularity of formal sightseeing walks include those conducted by Donald Jones of the Toronto Star on Toronto's history in general and its architectual history in particular, and Tommy Thompson's conducted walks through various Metropolitan Toronto Parks. Both of these types of walks often attract hundreds of people, even in inclement weather.

(vi) Downhill Skiing

Downhill skiing in urban areas is aimed largely at three groups: beginners, young people without cars, and "hot doggers" who wish to practice trick skiing on gentle slopes. The increased interest in urban-based skiing is a result of several factors, including:

- more urban facilities (e.g., 5 locations in Metropolitan Toronto)
- high expense and greater distance of non-urban facilities
- links with school physical education programmes
- availability of public transit in larger cities
- promotion by municipal supply agencies
- availability of rental equipment and instruction, at relatively low cost.

This latter point is particularly important for persons just beginning to ski.

(vii) Nature Lore

Nature lore appeared to be gaining momentum as a more popular winter activity in urban Ontario. The lack of detailed information, however, was a problem in gaining a clear picture of this activity. Like snowshoers, people interested in nature lore tend to participate alone or in very small groups and in relatively isolated areas. The exception is the Christmas bird count, conducted in much of Ontario by nature groups. Birdwatching appears to be the most important component in terms of participation in nature lore activities. Increased interest may be linked to the "back to nature" and fitness movements and the increased popularity of snowshoeing and cross-country skiing.

(viii) Picnicking, Field Sports, and Hang-Gliding

Picnicking, field sports, and hang-gliding were winter activities that appeared to be gaining a certain degree of popularity, but to date interest has been largely confined to large cities in Southern Ontario. Participation in field sports may increase once awareness is heightened and rules become known and standardized.

(ix) Winter Carnivals

Winter carnivals are still popular in many Ontario communities, but a few respondents noted a significant decline in interest and many others perceived that, in their opinion, there was little potential for growth. At present, carnivals are mainly found in smaller Central and Northern Ontario communities. Problems with weather and

alternative activities (particularly cross-country skiing and winter use of second homes) were reasons often given for the declining growth of this activity. During the past year, however, there have been indications of the gradual revival of the winter carnival with a greater emphasis on family participation and on fitness in combination with social activities. Many of the innovative winter activities in Table 9 can be seen on carn val agendas.

(x) New Winter Outdoor Recreation Activities

Table 9 is a list of new activities that are taking place during the winter in various Ontario municipalities. At the present time, many of these activities might appear quite unusual. For example, it is difficult to imagine a game of baseball being played on snowshoes. Others are normally thought of as being non-winter activities. An example would be children's playground programmes. In addition, it is not possible to describe any trends for these activities because they are usually site- and situation-specific.

There are three basic dimensions on which each of these activities can be described:

- innovative vs. traditional
- organized vs unorganized
- continuous vs. special event.

Examples are as follows. Many of the sport activities listed in Table 9 are innovative variations on non-winter activities, often requiring new rules and/or equipment. Others (such as kite-flying) are traditional activities, but usually have not taken place in winter; apart from clothing requirements for participants, these activities are basically the same no matter what the season. The organized/unorganized dimension has a parallel in terms of non-winter activities: some activities are spontaneous and individual (e.g., picnicking), while others (e.g., children's playground programs) require some sort of organizing body. Sports (e.g., pick-up shinny vs. organized hockey leagues) usually lie somewhere in the middle. The problem with the sports activities listed in Table 9 is that the general public is unaware of their existence; as a result, it would appear that there is not at present a high level of spontaneous interest in these sports. Finally, some of the activities listed are continuous throughout the winter (e.g., children's playground programmes or activities for special groups), but many occur only as special events (e.g., snowshoe softball tournaments at winter carnivals). In part, this trend is a result of the point noted above, namely that many of these activities are so new that few people know about them or can imagine how to play them.

In summary, it is sufficient to note that these activities are occurring and appear to be popular.

Table 9

NEW WINTER OUTDOOR RECREATION ACTIVITIES

- Field sports
  - snowshoe softball
  - snowball
  - snowshoe soccer
  - snowshoe football
- Snolf (winter golf)
- Ice lacrosse
- Ice frisbee
- Children's playground program
- Hang-gliding
- Picnicking (often associated with cross-country skiing)
- Winter camping (outers' clubs)
- Urban sightseeing
- Nature lore
- Kite flying
- Winter cycling
- Earthball/moonball/monsterball
- Winter activities for special groups
  - daycare/outdoor activity programs for single parents
  - after-school park program
  - outdoor programs for the mentally and physically handicapped and the blind
- Platform Tennis

(xi) Summary

Except for downhill skiing, the activities that are gaining in popularity all require only limited resource development on the part of the supplying agency. Suitable topography and natural features can be found in most municipalities. Except for snowshoeing, they do not require deep, or extremely consistent snow cover. Because of the linear nature of many of the activities, they are well-suited to existing path and road developments in parks, while the field sports can use existing playing fields (while, of course, the ground is frozen).

It is likely, therefore, that these activities could become more popular throughout the whole Province, with the possible exception of the extreme Southwestern Ontario. Also, little modification of existing urban recreation and open space systems will be required. The major need will be for more land to link up existing parks to form linear systems, more woodland, and more "nature-oriented" tracts. It will not always be necessary, however, for a municipality to purchase such land directly. Such resources may be available in or near urban areas through public land owned by other government agencies. Examples include the vast areas of Crown Land in Northern Ontario and of Conservation Authority land in Southern Ontario, especially in and near urban areas.

In summary, the emphasis on the winter use of urban parks appears to be on:

- unorganized/unstructured activities
- fun versus competition
- integrating social and physical activity
- spontaneity
- small versus large group
- family participation
- fitness.

Programming by recreation agencies that:

- is in touch with these changing values
- is in touch with the changing demographic structure of the community
- creates an awareness of available opportunities

will contribute to the increasing and varied use of activities in urban parks in winter.

6. CASE STUDIES

(a) Metropolitan Toronto

In Phase I an attempt was made to study the users and uses of a set of particular parks. Time and financial constraints dictated that the case studies be conducted within Metropolitan Toronto and that the number of parks examined be limited. A sample of 17 parks was selected for study. Table 10 summarizes the findings.

It would appear that the parks examined were fairly heavily used during the winter for a wide variety of activities. The major factors in the success of particular parks were related either to resources (e.g., topography and natural features suitable for cross-country skiing and walking/hiking) or to facilities (e.g., skating rinks, playground equipment). Local and intermediate parks attracted users from nearby areas, while the city-wide and regional parks attracted people from a much wider area because of their size, resources, and facilities. With the exception of parks with very few facilities or limited resources, it would appear that if a park exists it will attract use. It was not possible, however, to compare the amount of use in the winter to that in the other seasons because of the lack of data.

Skating was by far the most popular activity, with most rinks being used for both pleasure skating and unorganized hockey. Only 2 parks had organized hockey and these were the ones with artificial ice rinks: Alexandra Park (City of Toronto) and High Park.

Tobogganing and sledding were the next most popular activities. Use was generally quite high, particularly at Centennial Park with its artificial hill and at High Park with its large areas and wide variety of hills.

Use levels at the playgrounds were not high, but use of the playgrounds did appear to be consistent. All of the playgrounds studied were traditional playgrounds. There is very little research on the use of playgrounds in other seasons; therefore, these limited levels of use might be comparable to those in other seasons. The topic merits further research.

Cross-country skiing was a major activity at 3 parks: Centennial Park, Wilket Creek Park, and High Park. Although none of these parks have formal trails, they are all relatively large and provide varied topography and natural vegetation. Perhaps most important, these parks provide the opportunity for skiers to travel relatively long distances on informal linear trails.

Walking/hiking was popular at only Wilket Creek and High Park, again because of their size and the availability of linear routes. Queen's Park (City of Toronto) received very little use and was in fact often empty. It is large and has many paths, but is surrounded by extremely busy streets and has few residents living nearby. The busy traffic and the severity of the winter would appear to limit its use by employees of the nearby Provincial Government or University of Toronto offices.

Table 10

CASE STUDIES: WINTER USE OF PARKS IN METROPOLITAN TORONTO, 1977

Type of Park	Name of Park	Municipality	Appraisal of Potential			Area (a.)	Resources										Activities																	
							Outdoor ice Rinks		Skiing		Sliding Hills						Skating			Skiing															
			Before field work	After field work	Change		Natural	Artificial	Cross-country	Downhill	Natural	Major artificial	Walking/hiking area	Fitness trail/ vita parcours	Snowmobile area	Children's playground	Pleasure	Shinny (unorganized hockey)	Organized hockey	Downhill	Cross-country	Instructional	Tobogganing	Hang-gliding	Walking/hiking●	Jogging	Fitness trail/ vita parcours	Nature lore, birdwatching	Snowshoeing	Snowmobiling	Playground activities	Picnicking		
Local																																		
1. Parkette	Carr	Toronto	L	L	-	0.4										•																		
	Margaret Fairley	Toronto	L	H	↑	0.3										•															L			
2. Tot lot	Strathburn	North York	L	L	-	3.0										•															L			
3. Downtown	Grange	Toronto	L	M	↑	4.5	2									•	•	•													•			
4. Neighbourhood	Melody Road P.S. Playing Field	North York	M	L	↓	4.0					•					•							•											
	Maryvale Playing field	Scarborough	M	L	↓	8.3	1											•																
	North Bridlewood	Scarborough	M	L	↓	7.6					•					•							•								•			
	Bellevue Square	Toronto	L	L	-	1.0	1				•																				•			
Intermediate	Cedarvale	York	M	M	-	10.6			•		•					•	•	•			L		•								•			
	Wanless	Toronto	H	H	-	7.9	1				•					•	•	•					•								•			
	Alexandra	Toronto	M	M	-	6.9		2								•	•	•	•												•			
	Davisville	Toronto	M	H	↑	7.0	3									•	•	•													L			
	Sentinel	North York	L	L	-	10.6										•																		
City/ Municipal	Centennial	Etobicoke	H	H	-	244.0	2		•	•		•		•	•	•	•	•			•	•	•	•			L			•	•	•	
	Wilket Creek	Metropolitan Toronto	H	H	-	180.0			•		•		•									•		•		•		•	•			•		
	Queen's	Toronto	L	L	-	21.6							•																					
Regional	High	Toronto	H	H	-	398.5	1	1	•		•		•	•		3	•	•	•		•		•		•	•	•	•	•		•			

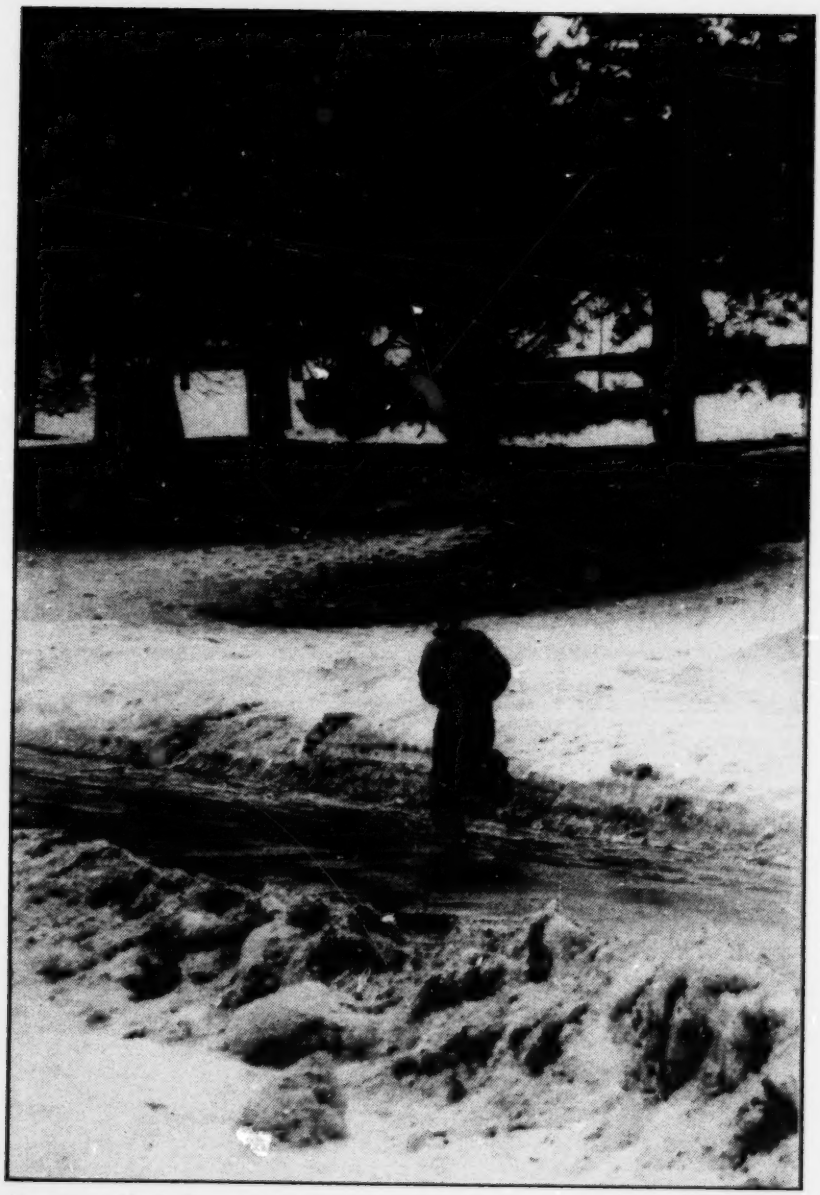
• Yes H High M Medium L Limited • Major ↑ Increase ↓ Decrease

● Walking/hiking activities do not include persons merely passing through the park.

Feeding the Canada geese, Duck Pond, High Park, Toronto

Children's playground, High Park Toronto

Jogger and walker, High Park, Toronto



Jogger, High Park, Toronto

Other activities were site-specific. For example, Centennial Park has the only snowmobiling area in Metropolitan Toronto; use was moderately high. Some hang-gliding also occurred at Centennial Park. High Park's vita parcours received only limited use, but this may have been a result of the fact that this is a relatively new activity for Ontario residents. Such activities as birdwatching, nature lore, snowshoeing, and picnicking were observed in limited amounts, but only at large parks (Centennial Park, Wilket Creek Park, and High Park).

(b) Ottawa

The Ottawa Recreation Department, during the winter of 1977-78, acted in accordance with its philosophy that there are winter activities other than ice skating that can take place in urban parks. In addition to the usual rink attendants, part-time programmers were hired to conduct activities for all ages, primarily after-school and on week-ends. Each programmer rotated among an assigned set of parks in directing events that ranged from inter-park hockey competitions to family barbecues, skating parties, etc.

The experience was such that participation was relatively high if the rink attendants provided continuity to the program (depending also upon factors such as weather and strucutre of the community). In the absence of such continuity, however, participation dwindled.

At the time of the writing of this report, the recreation department was in the process of debating the programming issue and establishing some directions for next winter. The following are some of the considerations in this debate.

- An emphasis on specialized programmes
- Programming in fewer parks
- The programmer spending more time per location
- A survey of the demography of each community
- Greater emphasis on education regarding winter activities.

(c) Thunder Bay

The Thunder Bay Parks and Recreation Department, like others, operates according to a philosophy of assisting community groups in their organizational stage by providing services such as advertising and by acting as a liaison between the groups and the community. The Outers Clubs in this city, which originated in this manner, are now operating very successfully, activities such as winter camping, environmental studies, survival programs and others.

In the Open Recreation Program, supervisors conducted winter activities such as snowshoeing and skating out of local community centres. One such program provided day-care for parents while they participated in an activity of their choice.

Another winter activity programmed by this department is 3-track skiing (alpine and cross-country) for the physically disabled and mentally retarded residents. Participation in this program doubled this winter, its second year of operation.

IV SOME THOUGHTS ON THE FUTURE

1. INTRODUCTION

In the next few decades, it is expected that there will be very significant changes in Canadian society that will profoundly affect leisure and recreation. Many aspects of recreation in Canada will be altered by changes anticipated in:

- socio-demographic conditions
- attitudes and values
- work
- education
- economic conditions
- technology
- the physical environment
- time utilization.

The characteristics of the clientele that recreation professionals have been attempting to serve over the past decade through the provision of park land, recreation facilities, programmes, and other services (leisure opportunities) will change dramatically in the next fifty years. Significant shifts to an older popularion with a large proportion of young adults are already evident. The current number of children and teenagers that presently constitute the major client group is expected to drop somewhat, then hold relatively steady through to the end of this century.

Changes in the characteristics of the users coupled with the effects of other factors have combined to influence both demand for and supply of leisure services. More opportunities will be expected and utilized; better quality opportunities will be demanded; interest in some new opportunities will be generated; and there will be a desire to use some resources differently. In addition, both the supply of resources and the means of providing them will be influenced.

Table 11 describes the major general trends and patterns in recreation that are expected, the major reasons for these trends, and the more detailed implications of these major shifts and influencing factors. Further implications relevant specifically to outdoor winter recreation in urban areas in Ontario are discussed following the table.

2. FURTHER IMPLICATIONS FOR URBAN WINTER OUTDOOR RECREATION

There are several additional implications specific to winter recreation and the winter use of urban parks.

TABLE 11(a)

MAJOR TRENDS AND INFLUENCING FACTORS INFLUENCING PLANNING
AND PROVISION OF RECREATION OPPORTUNITIES AND SERVICES IN CANADA

MAJOR TRENDS	INFLUENCING FACTORS	IMPLICATIONS
1. CLIENTELE WILL CHANGE	. Age structure of the population is changing. - number of children and youth are not increasing--will not increase significantly in next 25 or more years; - number of older people is increasing--by2001, those over 65 years of age will represent over 11% of the population; by 2031, over 19%; - in the next 25 years, the 20-45 age group will increase in number--by the year 2001 the 'Big Generation' will be between 35 and 50 years of age and will have moved up the population pyramid from age 15 in 1981. . More females through all age groups are becoming involved in leisure pursuits. - sports, arts, cultural, other recreation; - participants and spectators. . More people in all age groups are placing greater importance on leisure time and its better utilization.	. The focus of community and social services, including recreation, will have to shift from children and youth to young adults, to middle aged and finally to older adults. . Increased pressure will be placed on existing services for adults if the resource base does not expand as the age profile changes. . The type of services provided and the method of delivery will have to change. . The type, function, distribution, and level of provision of recreation facilities, parks and other recreation/open space areas will be influenced by the shifts in age and sex profiles of the population.
2. DEMAND/INTEREST FOR LEISURE OPPORTUNITIES WILL CHANGE a) More opportunities will be expected and utilized	. There will be more people able to partake in leisure activities because the population of the country will increase to about 35 million by 2001 and a greater percentage of the population will be placing higher priority on leisure time pursuits in both traditional and other environments (work, educational). . Most people will have more leisure time--the work week will be shortened, there will be more annual vacation time, and the retirement age is expected to drop. Also, work periods will be more flexible, leaving people available to use recreation resources at different times.	. Increased number of people each with more available leisure time will increase the average demand for opportunities in all settings and through all jurisdictions--increased pressure will be placed on existing opportunities. . Changing time budgets for work and leisure will permit more people to be available during week days to reduce impact on traditional prime time periods producing more effective use of facilities. . Traditional low use periods (summer vacation time) may disappear.

MAJOR TRENDS	IN INFLUENCING FACTORS	IMPLICATIONS
b) Better quality opportunities will be expected (facilities and services). More high quality in addition to current levels and scales.	. More people (especially adults) will be placing a higher priority on leisure time pursuits. . Interest and participation in leisure activities is reaching a higher level of satisfaction. . People are becoming more serious about what they do--they are examining alternatives, deciding what best suits them, and then setting priorities.	. Possibly, a trade-off between quantity and quality will be appropriate. . Decision-making based on quantity of participation and cost versus value will have to become less significant.

c) Different opportunities will be demanded.
- more opportunities
- more variety/options
	. Interest in new opportunities and characteristics of participation will be displayed by all age groups but particularly, the young and middle aged adult groups as they emerge as major proportions of the population.
	
	. Changing social values and relationships will influence the types of activities, mode of participation, and environments.
	- increase in support for:
	  - community/interdependence/social involvement;
	  - quality of life/vitality;
	  - self-actualization/creativity/spontaneity;
	  - ecological ethic/interest in natural environment;
	  - individualism/privacy;
	  - humanitarianism.
	- decrease in support for:
	  - private ownership;
	  - capitalism/unqualified economic growth;
	  - independence (personal);
	  - nuclear family.
	
	. Reduced role of work as a physical activity should place increased importance on leisure activities as means of improving physical well-being.
		. Interest in physical fitness activities, the natural environment, individual and small group activities, and activities with more social value will continue to increase.
		
		. More people and groups will prefer lower levels of competition and more individual control over when, where and in what they participate.
		
		. There will be greater interest in leisure activities that: encourage self-expression, self-improvement, intellectual enrichment, individual involvement, individual goal attainment, and which offer temporary escape.
		
		. Increasing emphasis will be placed on serving 'communities of interest' rather than just traditional geographical communities of residents.
		- groups of people with a similar interest(s) from across the municipality, province or country;
		- peer groups;
		- people who work together, go to school together.
		
		. Interest will stabilize or decline in 'laid-on' organized, programmed experiences, and competitive, organized sports activities.
		
		. Examples of activities expected to display significant increases in participation include:
		- social variations on skating, swimming, physical fitness;
		- lower level of competition in hockey, swimming, field sports, ball--more 'recreational' or fun orientation--more spontaneous, fewer rules;

MAJOR TRENDS	INFLUENCING FACTORS	IMPLICATIONS
		- racquet sports (especially tennis and squash); - cross-country skiing; - soccer; - bicycling; - fitness activities; - ringette; - arts, cultural--participation and spectating; - visiting restaurants for pleasure; - boating, especially sailing, canoeing; - natural environment/wilderness exploration, orienteering, nature lore/environmental appreciation; - camping--except tenting; - spectating--sports and cultural; - urban sightseeing.
	. Increased costs of facility operation and construction will affect the cost of providing leisure services.	. Increased costs of facility use could reduce demand for some activities and increase demand for others.
3. CHARACTERISTICS OF SUPPLY AND SUPPLIERS WILL CHANGE a) Resource base/ opportunities supplied		. The type, form, distribution, quantity and quality of recreation facilities and land as well as the overall level of provision will be affected. Depending on the priority placed on leisure, the effect will be somewhere between somewhat positive and quite negative.
	. Costs (energy, labour, etc.) will increase and resources will become less plentiful. - costs of operation and construction of recreation facilities will increase; - the availability of land and financial resources for leisure resources may be reduced as resources for all services are affected.	. Some recreation facilities may become less plentiful, especially those consuming large amounts of energy and needing large maintenance and program staffs--also, those consuming large tracts of land. - examples include arenas and indoor pools, and provincial parks. . The design and construction of major facilities will have to become more efficient and multipurpose.

MAJOR TRENDS	INFLUENCING FACTORS	IMPLICATIONS
		. Other facilities such as trails, playing fields, multipurpose community centres, wood lots should become more plentiful as costs of operation are more reasonable and shifts in interest appear to favour less formal, structured facilities. . Urban areas as places for leisure activities and locations for leisure resources will become increasingly important.
	. Changes in the urban setting could have an impact. - more people will live in major urban areas in Canada; - residential densities may be higher; - forms of housing may change somewhat; - the quality of urban areas as places to live is expected to improve; - the overall general nature of cities, however, is not expected to change drastically by 2000.	. The role, character and distribution of local parks and facilities may be affected by changes in urban areas, especially high densities and more areas of high density residences. - Non-local parks (especially intermediate-scale) could also be affected. . The amount of land available for recreation development may also be affected by changes in the urban setting.
	. Changing social values will produce a broader understanding of the meaning and value of leisure; this will be reflected in the types of resources (land, facilities and personnel) that will have to be provided in the future.	. The impact of changing social values will be reflected in greater demand for quality facilities and services; and resources offering more opportunities for spontaneity, creativity, personal fulfillment, self-expression, small groups and the individual, socializing, appreciation of the natural environment and promoting physical well-being.
	. The changing age profile of Canadians will reflect an aging population with fewer children and many more young adults in the next decade; in the following decades, the number of middle-aged and older adults will begin to grow more rapidly.	. Interests in leisure pursuits, modes of participation and motivation will change, and therefore the resource base supplied will have to reflect these shifts. - there should be little or no expansion of resources for children and youth; - there should be a significant expansion of facilities for young adults and seniors; - later (next decade), there should be an expansion of opportunities to meet the interests of an enlarged middle-aged group.

MAJOR TRENDS	INFLUENCING FACTORS	IMPLICATIONS
	. Some of the proposed changes in work and space could affect the supply of recreation resources. - it is expected that work will become more enjoyable and personally satisfying for greater numbers of people; - the work space may change; - work will become less physical; - working periods will become more flexible.	. It may become advantageous and desirable to provide recreation areas (outdoor and indoor) as part of the work place: - employee and community use; - opportunities for exercise in work place; - may produce a more satisfying work environment; - flexible work schedules could permit daytime and evening employee recreation activities.
	. Some of the likely changes in education and schools will affect recreation environments. - the roles/functions of education are beginning to more closely resemble those of leisure as both change; - the function of education facilities as single purpose environments is broadening.	. Leisure and educational pursuits will begin to blend together and facilities will be shared. - the nature of schools and recreation facilities will be modified such that both serve broader functions as social service centres for the community.
b) Suppliers of the resources base/ opportunities	. The above discussion has described many anticipated changes in socio-demographic conditions, attitudes and values, work, education, economic conditions, technology, the physical environment, and time utilization. The major impacts on clientele, demand and supply in the leisure field have been discussed. The above factors will also strongly influence who provide leisure opportunities in future as conditions change.	. The present mix of public to private agencies involved in supplying opportunities (land, facilities, programs, other services) for leisure pursuits will not be adequate to meet the rapidly changing demand in the near future: - changes in demand for more, better and different opportunities for changing client groups each evolving modified interests and values. . The public sector will provide more but not all leisure opportunities. - education and other social services will take larger responsibilities while working more closely with more traditional recreation agencies. . The private sector will also have to assume increased responsibility as a supplier. - commercial recreation (and tourism) operators; - industry, including the residential development industry; - more personal, family responsibility - the home environment will become more important - more volunteers from the community.

TABLE 11 (b)
TRENDS IN INTEREST IN LEISURE ACTIVITIES IN ONTARIO - 1978 TO 1990

LEISURE ACTIVITY	CHARACTERISTICS OF CHANGE				NOTES
	SIGNIFICANT INCREASE (Beyond pop. increase)	LITTLE CHANGE (Some fluctuation expected, most attributed to pop. shifts and increase)	NOTABLE DECLINE (Accounting for pop. increase)	PRESENTLY NEW/NOVEL INTEREST GROWING, UNCERTAIN FUTURE, MONITOR CLOSELY	
Swimming					
-competitive		*			- may show slight decline due to age shifts and increasing costs
-recreation/social	*				- increase due to age shifts and changing social values
-scuba, skin-diving		*			
Skating					
-hockey-organized			*		- in relative terms due to increasing costs and shifts to older population
-adult recreational	*				- population age shifts and changing social values
-figure skating		*			- age shifts and higher costs may reduce interest
-speed skating		*			- age shifts and higher costs will hold in check
-general recreational		*			- may demonstrate increase due to age shifts and changing social values
-ringette	*				- interest has not peaked, more girls and women participating in leisure activities, increase will level
Field sports					
-soccer	*				- lower cost of participation, few skills needed to become involved in the sport
-football		*			- may decrease as number of secondary school boys drops
-rugby		*			
-cricket		*			
-field lacrosse		*			
-field hockey		*			
-winter field sports				*	- novel, potential exists due to available resources, more young adults available, low cost, changing social values
-softball		*		}	- may experience upswing in participation in Ontario due to introduction of professional ball in Toronto, may level off after a few years
-baseball		*		}	
-track and field		*			

LEISURE ACTIVITY	CHARACTERISTICS OF CHANGE				NOTES
	SIGNIFICANT INCREASE (Beyond pop. increase)	LITTLE CHANGE (Some fluctuation expected, most attributed to pop. shifts and increase)	NOTABLE DECLINE (Accounting for pop. increase)	PRESENTLY NEW/ NOVEL--INTEREST GROWING, UNCERTAIN FUTURE, MONITOR CLOSELY	
Box Lacrosse			*		- over past 5 yrs., uncertain future direction
Golf		*			- sporadic localized interest in 'snolf' (winter golf) noticed
Racquet Sports					
-tennis-conventional		*			- may soon peak and level, this trend established in the U.S.
-platform				*	- influenced by interest in U.S., also by interest in physical well-being and winter outdoor preferences
-squash	*				- influenced by novelty and changing social values, also age shifts
Handball		*			- may increase more, influences similar to squash
Boating					
-power		*			- may eventually decline as costs rise
-sail	*				- has not peaked, influenced by changing values and ethics plus costs
-canoe		*			- may increase more, influenced by changing values and ethics plus low cost
-water skiing		*			- may eventually change as costs rise
-fishing		*			- may increase due to age shifts (more adults)
Camping					
-tent			*		- many changed to more elaborate modes
-trailer		*			- appears not to have peaked
-winter camping				*	- may become more widely accepted as social values and the age profile shifts
Cottaging			*		- due to increased costs and slower expansion of supply
Picnicking		*			
Basketball		*			
Volleyball		*			- presently steady, may decline slightly as age profile shifts
Badminton		*			
Floor Hockey	*				- increase due to few specialized skills, lower costs (individual and facility)
Gymnastics		*			- more females entering the sport, influence of Olympics, changes in age profile will likely steady demand

LEISURE ACTIVITY	CHARACTERISTICS OF CHANGE				NOTES
	SIGNIFICANT INCREASE (Beyond pop. increase)	LITTLE CHANGE (Some fluctuation expected, most attributed to pop. shifts and increase)	NOTABLE DECLINE (Accounting for pop. increase)	PRESENTLY NEW/ NOVEL--INTEREST GROWING--UNCERTAIN FUTURE, MONITOR CLOSELY	
Skiing -alpine		*			- has peaked, may drop slightly due to cost, crowding
-cross-country					- has not peaked, increase due to shifting social values, age profile and lower cost than alpine
Snowshoeing		*			
Curling		*			- may experience a resurgence due mainly to age profile shift plus changing social values (social activity)
Jogging, Hiking	*				- has not peaked, influenced by changing social and health values
Horseback Riding		*			- may be influenced by enlarging potential market of young adults plus changing values
Bicycling	*				- market widening to include more age groups, changing values and influence of improved facilities
Orienteering					- greater interest in natural environment and other changing social values
Nature Lore	*				
Recreational Snowmobiling		*			- has leveled off, mareket now well defined, may decline as social values change
Tobogganing, Sledding		*			
Luge				*	- specialized facilities and equipment necessary
Motor Sports		*			- may be influenced by expanding young adult population, costs and facilities may have negative effect
Boxing, Wrestling		*			
Bowling -alley		*			- may experience an up-turn in interest due mainly to age profile shifts and changing values (social activity)
-lawn		*			- will likely be increase in interest as there become more older adults, beginning in near future
-carpet		*			
Billiards		*			
Dancing		*			- will be affected by changes in age profile

LEISURE ACTIVITY	CHARACTERISTICS OF CHANGE				NOTES
	SIGNIFICANT INCREASE (Beyond pop. increase)	LITTLE CHANGE (Some fluctuation expected, most attributed to pop shifts and increase)	NOTABLE DECLINE (Accounting for pop. increase)	PRESENTLY NEW/NOVEL INTEREST GROWING, UNCERTAIN FUTURE, MONITOR CLOSELY	
Recreational/ Social Clubs, Associations, Organizations	*				- influenced by changing social values and shift in age profile
Adult Education	*				- adult market expanding, subject matter expanding, role of education changing, affected by changing social values
Performing Arts	*				
Cinema	*				
Visual Arts	*				- market expanding--expected to continue, influenced by shifts in age profile, changing social values, changing role of recreation
Arts and Crafts, Hobbies	*				
Music	*				
Hunting		*			
Trap and Skeet Shooting		*			
Archery		*			
Hang Gliding				*	
Skateboarding				*	- very popular in U.S., high interest among youth in Canada, often special facilities utilized
Urban Sightseeing	*				- influenced by changing values
Spectating -sports, cultural, arts	*				- incluenced by general increasing interest in leisure pursuits by all age groups

As was mentioned in Table 9, urban areas will continue to become more important for recreation in the future. This is particularly relevant to winter-based recreation. Transportation problems are usually further complicated by winter climatic conditions. In addition, costs of travel increase more rapidly during the winter season. These factors make rural-based recreation areas less accessible, especially for residents of larger urban areas. Most of the outdoor recreation activities that are popular today -- and those that are anticipated to be of interest in the future -- can take place in urban areas if climatic and physiographic conditions permit. In addition, the changing focus to approaches with less emphasis on organization, structure, and programming in terms of provision and participation conform to the essence of many established and novel winter outdoor activities that can take place in urban areas.

There is a very high potential for the introduction, promotion, and acceptance of new winter outdoor activities, in addition to the modification and expansion of traditional leisure pursuits. The existing recreation resource base in urban areas and the current delivery system can support -- with limited to moderate modification -- new and expanding activities.

The increasing desire for high-quality experiences and facilities will hold true for winter outdoor activities and resources as well. A few examples of instances in which high quality will have to be established or maintained are:

- outdoor skating rinks
- trails
- opportunities for sightseeing and nature lore environments.

The final point concerns climate. The importance of climate has been discussed above. It was emphasized that most Ontario residents do not live where the winter climate is very suitable for outdoor recreation activities. When planning for the future, the climate in any part of the Province must be carefully considered as it will influence both the opportunities available and the quality of the recreation service that can be provided. Many scientists throughout the world are suggesting that the rather predictable and well-documented climatic conditions that have been common to each part of the world over the past 30 years (up to the early 1970's) may not be the conditions that can be counted on and planned for in the future. The essence of their predictions is that less stable, more widely fluctuating, and extreme conditions will be the norm. If this hold true, the impact on recreation resources and activities -- as well as on every other aspect of the urban environment and activities -- could be profound and dramatic.

V NEW DIRECTIONS

1. A PHILOSOPHY FOR THE WINTER USE OF URBAN PARKS

This chapter is designed to present the basis for the development of a philosophy for planning, design, and management that places increased empnasis on the winter use of urban parks. This philosophy can be summarized as follows:

- Think winter
- Promote winter
- Quality over quantity
- Know your client
- Do more with what you have
- Be innovative

(a) "Think Winter"

Until recently, it was considered by most people that urban parks were mainly for summer use and that whatever happened spontaneously in urban parks during the winter was simply a bonus. Some efforts were expended to develop facilities for winter (such as outdoor skating rinks), but little else was done and budget priorities were certainly focussed on summer.

When land was acquired for parks, thought was seldom given as to how the physical features of the site could be adapted to encourage winter uses. Also, the location of the site was usually not examined to consider such factors as access in winter, linkage for linear winter activities, protection from harsh climatic conditions, the ability of the site to hold snow cover, etc.

If modifications to the site were necessary, the development of facilities for summer activities was given priority. Seldom would recognition be given in the overall site plan to the potential for winter uses. A number of planning and design decisions often discouraged and even prohibited many winter activities:

- the placement and design of activity areas
- the type of activity areas
- the selection, design and location of support facilities (e.g., washrooms, interior pathways and roads, parking lots, water outlets and picnic tables).

Some guidelines on design and planning to begin to alleviate these problems and encourage a philosophy of "think winter" will follow in this chapter.

The "think winter" philosophy should be supported in program planning. Site and facility planning alone cannot increase winter participation. All too often, the opportunity to initiate or further encourage a new or modified winter outdoor activity is lost because there is no innovation in programme planning. Year after year, the traditional list of winter programmes and facility uses is duplicated and disseminated to the public. No real needs assessment or programme evaluation is conducted. The program participants should be allowed and encouraged to be creative, and to try new ideas. In turn, recreation personnel should be prepared to make modifications to either programmes or facilities. Participant evaluation during and after the programme should be encouraged. Often people need external motivation to permit them to begin to appreciate the much broader potential for the use of any environment.

The policies and regulations of recreation agencies should be re-examined and up-dated to incorporate the "think winter" philosophy. Some of these policies and regulations were established long ago and may in effect prohibit or discourage worthwhile winter uses of parks and facilities. Others may not be prohibitive, but simply do not encourage certain uses or the development of new or better opportunities. Some suggestions will be forthcoming in this chapter.

If the "think winter" philosophy becomes a more significant part of the recreation practitioners' overall approach to their particular tasks, a number of effects will result:

- more adequate, better-located land can be assembled into a more suitable leisure system
- a more comprehensive package of planning and design criteria can be developed
- programming can become more innovative and responsive
- the underlying policies and regulations together with agency philosophies can be modified to support planning, design, programming, and administration.

Improvement in any one of these areas will be beneficial and can have spin-off effects on the others. They are, however, all interdependent; therefore, a concentrated effort toward improvement in all areas will magnify the effect.

(b) "Promote Winter"

Increased recognition is being given within the field of public recreation in general to the view that marketing is a necessary component of the delivery of leisure services. Most recreation agencies to date, however, concentrate on promoting the summer use of playgrounds, playing fields, etc. Yet these facilities are available for winter use as well. There is growing evidence that winter activities are in demand, given an awareness of the potential use of outdoor facilities.

If both programming, and promotion of activities were conducted more in touch with leisure interests and needs and more in line with the characteristics of the client group, winter could provide an equal variety of opportunities for participation, if not a larger variety, than summer.

The following list of trends in participation is offered as a basis for both programming and promotion. The emphasis is on:

- family-oriented or individual activity
- fitness-oriented activity
- active as opposed to passive participation
- activity that includes a social component
- participation as opposed to competition (therefore, an emphasis on travel, and on fun)
- unorganized, unstructured activity (participate at will)
- outdoor activity.

(c) "Quality over Quantity"

As the role of recreation environments and leisure opportunities and services in general continues to change in the future, a parallel change will occur as demand increases for quality opportunities. The desire for quality and the shift in the role of recreation will stem specifically from (1) the growing importance that leisure will have as part of the lifestyle of Canadians and (2) an expanded role for leisure activities and experiences. Time spent in leisure pursuits is increasing. These pursuits will have to support greater creative experiences; a higher level of spontaneity; a more sophisticated, serious, and mature appreciation of leisure; and a greater degree of self-expression, self-improvement, intellectual enrichment, and goal attainment.

The quality of park and recreation facility development, the quality and character of programmes, the overall nature of the delivery of services and the services themselves will have to change and become more responsive to the diversification of interested Canadians. Recreation practitioners will no longer be able to justify the often cursory approach taken to providing facilities for winter outdoor recreation, particularly in urban areas. Tiny, thin-surfaced, rough, wind-swept skating rinks with no music, poor lighting, and little parking will not satisfy the increasing number of young and older adults who will want to skate. Demand for the few groomed cross-country ski trails in larger municipalities will likely increase as more people learn how to ski better and as they decide to stay near home to participate. Tobogganing and other sliding activities may, in the future, not be limited to only the interests of children. Bob-sledding, luge, and more sophisticated forms of tobogganing and sledding will likely become more popular with the growing young adult groups. As a result, high-quality facilities located in or near urban areas should be considered in major or regional parks.

The role and nature of programs will also have to change. The focus of attention must soon shift from children and teenagers to include adults. Programmes will have to be expanded to include increased emphasis on:

- skill development opportunities
- environmental awareness
- physical fitness
- participant involvement in program development
- program evaluation.

Although the focus of this research has been on outdoor urban winter recreation, some comments on indoor facilities are necessary. The issue of improved quality is as important, if not more important, for indoor facilities. The present -- and probably the future -- expectations of those interested in making use of the facilities falls short in a number of areas:

- the general character and atmosphere
- the potential for multiple-use
- the potential for social and non-sport pursuits
- the opportunity to experience comfort and a pleasing environment in most traditional skating rinks, indoor pools, and recreation centres.

Not all facilities fit the above description, however, and much can be learned from monitoring the reaction of users to the better facilities and applying the positive aspects to future development and redevelopment. The day of the spartan facility designed to handle minor hockey, Saturday gym classes, and the junior swim club will become more obsolete in the near future. The anticipated influence of a broadening client group and the changing views of what leisure means to the majority of people must be begun to be understood.

It may be that the old philosophy of measuring success by counting either heads or the number of parks and facilities, and of believing that large numbers can be equated with a good job will have to be set aside. Measuring value and satisfaction will become increasingly important. Quantity may suffer at the expense of quality. Expenditures may have to be concentrated on particular facilities in order to ensure that better facilities, parks, programmes, and services are offered in the future.

The philosophy of "quality over quantity" could be applied to the whole range of facilities and programmes provided by municipal park and recreation authorities, but it is especially important in the context of winter. As was documented earlier, much of the Province of Ontario has a climate that does not provide highly reliable winter conditions. To use an analogy from the field of economics, inputs of labour and capital must, therefore, be increased to overcome the deficiencies of land (i.e., the climate).

(d) "Know Your Client"

Much has already been presented about a number of topics:

- changes in the role of recreation
- the types of leisure opportunities in which people are likely to become interested
- the changing character of the client group
- the role that the potential user will want to play in the delivery system
- the increasing amount of time available for leisure
- the extent to which the philosophy of leisure may penetrate all facets of lifestyle.

Traditional approaches and a long-established "package" of opportunities and services will continue to satisfy only a minority of potential users in the future. Not only are leisure interests becoming more diverse, but the traditional client groups are becoming smaller. They are being joined and/or replaced by other groups with different needs and interests.

The impact of these changes on opportunities demanded for outdoor (and indoor) winter recreation may, in relative terms, be greater than for the summer season. Since little has been done, however, to meet urban-based winter needs, the potential to react as practitioners may be higher.

Practitioners should be prepared to recognize that significant changes are taking place in Canadian society, and that an immediate response from the recreation profession is necessary. The importance of this realization and positive reaction is possibly greater when considering the nature of the winter season, especially in larger urban centres.

Practitioners should also be prepared to seek out new client groups, particularly those which have largely been ignored in the past. It should be recognized that there is a great deal of latent demand for leisure activities from groups which have not been well-served to date. This is especially true for females. For example, a number of Ontario municipalities hav extremely successful ringette (a form of floor hockey on ice) programmes for girls. Another example would be cross-country skiing programmes for senior citizens or downhill skiing for the blind and physically disabled.

(e) "Do More With What You Have"

Regardless of whether one is considering what can be done to provide further opportunities for more and better winter outdoor recreation, or how one can react positively to meet the challenges of the future of recreation in general, much more can be done with what already exists. One does not have to re-invent the wheel. Part of the present problem being faced today is that many opportunities to be more effective and efficient with existing resources have traditionally been overlooked. Through an examination, and modification where necessary, of many of the philosophies, practices, priorities, policies, and regulations that presently guide park and recreation agencies and the recreation profession as a whole, much more can be done.

Many existing park areas and recreation facilities could be used more fully, especially in the winter season. Basically, many types of spaces and facilities (such as slopes, playing fields, open areas, trails and linkages, etc.) are appropriate for outdoor winter use. In some cases, design and location modifications are possible to diversify the use of a facility. A few shifts in programming can open up a broader range of winter opportunities for more groups and allow existing facilities to be used in winter as well as in summer. Examples would include the promoting and programming of winter field sports, winter picnicking and camping, and year-round urban sightseeing.

Many parks and facilities can be modified for winter without spending large amounts of money or totally redeveloping the site. One approach is simply to "winterize" what is needed when existing activity areas and support facilities need repair or replacement: winterize a washroom, re-allign a path or roadway, re-arrange plantings, etc. to better accommodate winter uses.

Much can also be accomplished without incurring large costs, through

- attitude modification
- education
- the adoption of a creative and flexible outlook.

This holds equally true for both the practitioner and the potential user. If a client learns to appreciate and to use an existing opportunity more effectively, or if a practitioner can create another use for an existing facility, then supply has been increased without adding anything new.

(f) "Be Innovative"

In a certain sense, this point is a direct extension of "Do more with what you have," but it is of such importance that it warrants emphasis.

Most municipal park and recreation agencies are locked into a set of facilities and activities that are considered to be "successful" as measured by some internally agreed-upon set of criteria -- numbers of users, low cost, aesthetics, ease of maintenance, etc. Indeed, if they were not "successful", they would not have been retained. An example is that of the emphasis placed on hockey arenas in many municipalities, particularly the smaller ones. Because their initial capital costs have been amoritized over a number of years, older arenas are relatively inexpensive to operate, despite rising energy costs. (The construction of a new arena, however, is an entirely different matter, as will be discussed later.) In addition, it is relatively easy to have it used 24 hours per day for 6-7 months per year, even if many of the users are groups from other municipalities. Therefore, its "success" is measured in terms of both cost and use, and the municipality continues to support it fully, often at the expense of any other winter facilities or programmes. Thus, "success" and tradition become a vicious circle, out of which it is hard to break. When encouraged to change the mix of opportunities provided, the agency's response is usually: "Why should we tamper with success and risk failure?" If an agency can be persuaded to offer new opportuities, these activities often "fail" because they do not attract enough users to justify their continuation. The agency thereby feels vindicated and returns to the former pattern.

Rarely are the root causes of such failures examined in detail. A number of explanations, or a combination of them, are possible:

- lack of staff commitment/leadership
- lack of staff skill, training, and preparation
- lack of or poor quality of support facilities
- lack of promotion and advertising
- poor location
- unfavourable weather conditions
- incomplete or incorrect information about the target client group
- lack of skill, training and preparation by the client group
- the innovative nature of the activity.

The last two points require elaboration. In the case of some activities, the client group may not be ready to actively participate in a particular innovative activity. An example would be ringette, a form of floor hockey played on ice and designed for girls. In order for a ringette programme to be successful, certain preconditions are required, all of which the "average" Ontario boy is assumed to meet: skills such as skating, stick-handling, goal-tending, etc.; team-work training such as play-making and offensive and defensive strategy; education with respect to rules, availability of equipment; etc. In addition, the clients must be interested and motivated, both of which are often difficult because of physical and psychological barriers. Girls might be reluctant to participate because of a lack of familiarity with body-contact sports, or their parents might be reluctant to allow them to take part for fear of physical injury. Similarly, there are psychological constraints to be overcome, particularly in terms of sex-role stereotyping in sports and recreation. Finally, it must be remembered that activities such as hockey did not attain widespread popularity overnight. New activities must be given time -- time to be accepted, to be nurtured, and to grow. Again, ringette provides a good example of such an activity. Today there are over 50,000 girls in Ontario active in ringette; however, most of this interest is confined to particular municipalities, notably in Northern Ontario.

Traditional attitudes about particular activities must be overcome. For example, golf is seen as a dignified, leisurely game with a well-defined set of rules, and with a widely-accepted system of etiquette. On the other hand, snolf -- winter golf -- is by its very nature a less serious, more fun-oriented activity. How can one get very serious about a game in which participants might ride dog-sleds, use toboggans for golf-carts, paint their golf-balls day-glo orange or attach colourful streamers to the golf balls to avoid loss, or have to chip them out of a snow-bank.

In an earlier section, a list of innovative activities that are taking place in Ontario was presented. While many of these activities are indeed unusual (e.g., snowshoe baseball), they are being tried, if only on an experimental basis or as special events at winter carnivals, and they are often successful.

2. PLANNING AND DESIGN GUIDELINES

(a) General Guidelines

These general guidelines have been developed to assist with the planning and design of urban recreation areas. They are, in fact, principles designed to encourage the high quality development of recreation areas. They are directed at municipal park and recreation personnel, other involved agencies, developers, and residents since all are ultimately likely to be involved in many decisions about park planning and design. These guidelines or principles are very general and apply to all levels and types of recreation areas. They are not intended to be all-inclusive, but, rather, they should cover many of the most significant principles that underlie the provision of good recreation areas. The focus is not just on planning and design for winter use, because parks should function well in all seasons, although some parks, usually because of their physical character, can offer more for one season than the others.

- Design should be for people. There should be a balance of impersonal and personal needs. Empty benches might indicate that park users wish privacy. Automobiles and pedestrians should be separated. Orientation of sitting places toward activity spaces encourages human interaction. Grouping of benches fosters conversation-making and silent inspection of others. Simple open space should be set aside to satisfy the leisure-time whim of the moment.

- Parks should be planned, designed, and maintained for year-round use. Non-local parks should encourage certain uses atter sunset through appropriate lighting and lay-out.

- The design of all equipment, apparatus and facilities should be properly scaled to meet the requirements of the intended users. As an example, the percentage of grade and the run for tobogganing should vary with the age of intended users.

- When possible, most physical structures (buildings, parking lots, fixtures, playgrounds, etc.) should be arranged around the perimeter of the site in order to leave the largest possible open area for unstructured and/or structured sports and other recreation activities.

- The organization of use areas on the site should provide for supervision needs. For example, sitting areas should be close to children's play area.

- Circulation and traffic systems between various areas should be planned to encourage interaction, promote safety, and support an aesthetic environment.

- The site and facilities should be aesthetically-pleasing, yet appropriate for intended use. For example, size requirements for sports areas should be met without destroying the balanced appearance of a site.

- The maintenance and servicing needs of the area should be accommodated. For example, there should be adequate service roads; and maintenance should be considered, such as gentle slopes to facilitate mowing. Winter conditions should be carefully considered in order to ensure adequate access to activity areas and indoor facilities for both park users and staff. The overall recreational and aesthetic value of the site should not, however, be significantly compromised by maintenance considerations.

- Facilities, spaces, and fixtures should be safe, yet over-reaction to the issue of safety can destroy the inherent value of many types of facilities and experiences, especially children's play areas.

- Structural materials appropriate for the intended use should be selected taking into account durability, availability, appearance, and maintenance.

- The border and entrance and exit of a recreation area are usually not considered as activity areas, but are certainly functional areas. The border or boundary provides an "edge" to "frame" activities and can provide an appealing atmosphere of human scale and, in some cases, protection for the user. From the outside, borders and entrances can either destroy the attractiveness and purpose of a park area or become one of the most important features to attract people into the site. Harsh, institutional fencing, gates, and narrow openings should be avoided. Edges are important to help define the site. Where a barrier is necessary to protect children from busy streets, parking lots, and other incompatible areas, such design features as earth mounds, platings, wooden fencing, and other "soft" structures should be utilized. Also, borders should not be so high that they obstruct the ability of passers-by (whether walking, cycling, or riding in a vehicle) to easily see into the recreation area.

- It is also very important to ensure that a significant portion of the perimeter of the area is directly exposed to the street in order to permit the recreation area to add aesthetically to the surrounding community, to encourage use through awareness and improved access, to reduce negative impact on surrounding residences, and to permit a wider range of uses (particularly in smaller parks).

- A park plan should accommodate the needs and preferences of as many people as possible, especially local residents when dealing with a neighbourhood recreation area.

- The park plan should relate to the surrounding physical area. The plan should encourage resident interaction between the park and adjacent complementary land uses (e.g., school, houses, library, etc.), and restrict interaction between the park users and incompatible land uses (e.g., busy street, dangerous industrial area, parking lot, etc.). The character of the built forms (i.e., building and landscaping) should not strongly contradict the type of development in the immediate area, such that local residents would not be able to identify with the site as being suitable to their neighbourhood.

- Everything should have a purpose. Function should be considered before form or design. A park is a complex of many parts. The location of every park unit affects the workability of another.

- Demand for site development (related to user demand and need) should be matched to the potential of the site for development. Use areas should fit naturally on the site. Natural features (slopes, hills, level ground), soil (carrying capacity, drainage), vegetation (grass, trees), and orientation (sun, wind, shade) should all be considered carefully.

- The site plan and facility design should be flexible and should relate to function, changing requirements for use, and available resources.

- When planning, designing and administering each site, regular evaluation and subsequent modification should be allowed for in order to help ensure an adequate maintenance and improvement program.

- When making decisions about land acquisition, the physical and locational features that permit certain recreational uses should be taken into account. The focus has traditionally been on summer activities and on natural environments that encourage picknicking, swimming, sports, etc. Hills and slopes, sheltered areas, linear spaces, a quiet pond that will freeze safely for skating, coniferous trees, access for all seasons and other features are important for winter use.

- Given the linear nature of many outdoor recreation activities that are possible in the winter (e.g., cross-country skiing, snowshoeing, jogging, walking, hiking, vita parcours), municipalities should place emphasis on acquiring land to link up existing parks and other public open space area within urban areas. Such a policy would be beneficial in terms of both winter and summer activities.

(b) Specific Guidelines for Winter Climates

The guildelines presented here deal more specifically with issues related to winter climates.

- When designing a park that will contain activity areas that encourage winter outdoor recreation activities or when deciding where to locate a park that is intended for winter and summer activities, the following factors[1] should be carefully researched and the findings applied to the task of planning and design:
  (a) local topography and vegetation cover
    - elevation above surrounding land
    - slope
    - variation in local topography
    - vegetative ground cover
    - tree cover
    - groundwater and surface water
  (b) climate (suitable for snow and ice cover, and satisfaction)
    - temperature
    - wind chill
    - precipitation
    - snow cover
    - sunshine and daylight
    - cloudiness
    - fog
    - wind

- Micro-climatic conditions should be considered when designing a park; for some parks they are much more important than for others. It usually depends on the purpose of the area and on exposure to certain environmental conditions. For example, a park located on the waterfront should be designed to account for prevailing winds, spray, wave action, etc. Often it is desirable to create calm environments in exposed parks. For the winter season, some of the activity areas that are to be used should be protected from cold prevailing winds and sun traps should be created to warm the environment in certain areas such as play areas and picnic grounds. Sometimes, exposure to the warming sun is detrimental to the activity area; an example would be a toboggan run or ski slope.

- The most important considerations of climate that centre on micro-environments are wind protection and exposure to the sun. Effective design of outdoor space can counteract undesirable conditions and encourage desirable ones.

1. Refer to Chapter II for a more detailed discussion of these factors.

- Enclosure of space is a fundamental requirement, and can be achieved by building form or by major trees, or both.

- Large open spaces require shelter belts of coniferous trees (particularly pines) to provide protection against prevailing winds. (In Ontario, the prevailing winds in winter are from the northwest; in the summer, they are from the southwest.) Not only is wind chill reduced, but there is also an effect on snow drop and retention.

- Large open courtyards and other activity areas are subject to wind eddies and should be either made small or planted with trees as borders for protection.

- Snow build-up and drifting can be reduced in areas where that is desirable and encouraged in other areas by correctly locating barriers against prevailing winds.

- Walks associated with large open areas that are exposed to winds should be protected by high shrubbery, trees, walls or screens. Pine trees are particularly suitable for buffers, as are poplar, aspen, and willow.

- Sitting areas, useful in early spring or late fall, or on calm days in winter, should be oriented to the sun and baffled against driving snow. Study of localized wind patterns is essential in each individual case to prevent snow build-up and the consequent unuseability of such spaces at these times.

- It should be recognized that buildings can create both good and bad conditions. For example, they can be used to shelter an activity area from the prevailing wind. On the other hand, they can also cast unwanted shadows on an activity area and, if large enough, can create wind-tunnel effects.

- The effect desired from the sun varies depending on the activity. With some activities, it may be desirable to trap the sun from the east, south or west and to reflect the heat back into the activity area. This would be the case for a sitting area or perhaps parts of a children's playground area. On the other hand, the sun can work against suitable conditions for other activities, such as downhill skiing, tobogganing, etc. Such activity users should be oriented to either the north or the northeast in order to avoid as much direct sunlight as possible.

- Sun glare into interior spaces from which people look out may be a problem in winter. Coniferous trees can be used to filter the glare to reuce this effect, while at the same time not blocking views completely.

3. FACILITIES

(a) Outdoor Skating Rinks

There appears to be a growing interest in recreational skating in Canada. The number of young adults involved in skating is increasing and there is a renewed interest by middle-aged people. It is suggested that changing social values are encouraging this pattern, particularly the growing interest in physical fitness, in the natural environment, and in higher quality facilities, and the increasing social value of recreation and unorganized, spontaneous, individual types of activities. At the same time, the number of young people available to participate in traditional organized skating activities, especially hockey, is not increasing and may in fact begin to decline somewhat over the next decade.

These trends should result in serious questioning of many current practices related to the provision of skating facilities and programs in Ontario municipalities. The mix of arenas, outdoor artificial rinks, outdoor natural (flooded) rinks, and other natural rinks (ponds, rivers, canals, etc.) will have to be questioned. This enquiry should go far beyond the issues of climatic conditions and economic feasibility.

Quite possibly, there is already a need for more outdoor, high-quality, aesthetically-pleasing skating facilities to satisfy the changing client group and shifting social values. The need for more of the traditional style of arena with very limited multi-purpose options may soon begin to decline.

Many municipalities, however, have climatic conditions which seriously impede the provision of natural outdoor ice rinks, because of mild or unreliable temperatures. An attempt should be made to provide ice conditions that can better withstand such climatic problems. In many municipalities, the present approach is to supply neighbourhood-oriented natural ice rinks for shinny hockey and pleasure skating. Manpower for rink construction, flooding, clearing, and dismantling is spread thinly among a large number of rinks and the quality of ice, snow removal, and construction is far from adequate. The ice surface is often thin and uneven, snow removal has a low priority, and the rink boards are unsightly. In some communities, the portable rink boards are left in place year-round. Outdoor natural rinks usually are less reliable in terms of quality and resistance to mild spells than outdoor artificial rinks. This weakness can be overcome to a large degree, however, by the type of maintenance program. Natural rinks are usually less costly to maintain than arenas or outooor artificial ice surfaces. In Ontario, there appears to be a trend toward municipal parks and/or recreation agencies assuming greater responsibility for outdoor ice rinks of all kinds.

It is recommended that large numbers of outdoor natural ice rinks not be provided in municipalities in which the climate is only marginal. Instead, fewer rinks should be maintained and they should be located strategically so as to serve larger portions of the population, possibly several neighbourhoods. More than one ice surface should be developed at each location. A possible design would be a hockey rink with boards, at similarly-sized rink for family and pleasure skating, and a small rink for beginners. The pleasure skating rink might be of a shape not conducive to hockey such as a trail, a circle, a figure-eight, etc. In some municipalities, outdoor running tracks and horse tracks have been flooded for pleasure, speed, and power skating. Greater emphasis should be placed on outdoor rinks for recreational skating.

When fewer rinks are supplied, available staff and volunteers can spend more time flooding the rinks at appropriate times (i.e., usually late evenings), snow can be removed more quickly and conveniently because of fewer locations, and less travelling time is required for both men and equipment. As well, the quality of the rink boards should be upgraded and the facilities designed such that they can be removed in the off-season. Also, if quality increases and quantity decreases, the drawing or attracting power of each location usually increases. The concept of fewer better quality outdoor rinks is valid for more than economic reasons. As has been described, the demand for this shift in facility character is growing.

It is suggested that each municipality provide at least one high-quality, major natural or artificial outdoor rink suitable for pleasure skating. Facilities would include a hot drink and snack bar, lighting, change-house and washrooms (possibly portable), music, and ample parking. Such a rink should be located in a major, central park. If local groups of volunteers want to maintain neighbourhood rinks in addition, however, they should be encouraged to do so, if funds permit.

In recent years, many Ontario municipalities have been paying much less attention to outdoor artificial rinks and are building more arenas instead. In addition, many outdoor artificial rinks have been totally or partially enclosed. The argument in favour of arenas or enclosed rinks and against outdoor artificial rinks centres on two factors. First, the outdoor artificial rink costs more to maintain and is more sensitive to climatic conditions. Second, a smaller number of usable days in the winter season is available. Outdoor artificial surfaces, however, are less expensive to construct and, if designed and programmed properly, they can provide a much more pleasurable atmosphere for recrational or pleasure skating. It is this point that must be examined more carefully. The above thinking about higher operating costs and inconsistency holds up well if organized hockey and figure skating are the main uses being considered. All the indicators available, however, suggest that the market for traditional non-spectator arenas will not expand significantly in the future. The number of interested people available to play organized hockey will not increase as it has in the past. On the other hand, interest in outdoor pleasure skating rinks should increase and arenas are not the environment that best supports this activity. Climatic conditions in each municipality will likely be the most important factor to influence the decision about whether to build a natural or artificial outdoor rink. In the case of the natural, flooded rink, however, more flexibility is possible due to the ability to locate the rink where the need is the greatest, the location possibly changing from year to year. In addition, it can often be located where the surroundings are most appealing to recreational or social skating.

In a number of Ontario municipalities, portable artificial freezing pads have been used, usually in conjunction with an arena, in which case the arena freezing plant would be used for both surfaces. The portable pad can be "folded up" for the summer season. Apparently, the concept has a major technical draw-back in that the seasonal dismantling procedure causes significant and expensive wear on the pipes and fittings.

Another flexible outdoor rink concept has been developed and used in many municipalities. Hard-surfaced outdoor courts (e.g., tennis, basketball, and volleyball courts) have been flooded for skating in the winter season. Usually, the pipes necessary for artificial freezing and a freezing plant are installed as part of the initial installation. This concept has obvious multi-purpose advantages, but one significant but not always important disadvantage: the quality of the playing suface for summer activities -- especially tennis -- is greately reduced in order to accommodate the winter use and is not suitable for reasonably high-calibre play. This may not, however, be a major consideration for local, neighbourhood courts.

Outdoor rinks should not be discounted, whether they be natural or artificial. They cannot replace arenas, nor should they be compared to arenas. For some activities and for many people, rinks that are well-developed, -located, and -maintained provide a much better setting for many skating activities. Efficiency should not be the only criterion or the most important one when deciding on the mix of types of skating facilities in a community.

(b) Slopes

In urban areas where winter climatic conditions provide adequate snow cover, hills and slopes usually produce some of the best opportunities for winter outdoor recreation activities. Even without significant modification, many hills permit tobogganing, sledding, skiing, and hang-gliding. Some hills or slopes have been created artificially, such as the hill made from garbage in Centennial Park in Etobicoke. Other hills have been modified, some drastically, to improve traditional downhill recreation activities or to introduce new ones. Bob-sled and luge runs are two such facilities that require specialized equipment, maintenance, and skills. These facilities should only be provided in large urban areas and in regional parks. Use should be carefully monitored, however, to permit a better understanding of the type of person who is interested in such activities and of trends in demand.

Hills suited to tobogganing, sledding, and skiing should offer a balance of safety and excitement. Trees should not be planted on the hill where the downhill activity takes place or at the base of the hill and beyond. Roadways within parks should not be placed at the base of toboggan hills, and the use of hills for recreational purposes should be discouraged in situations in which a road, a water course, or a rail line passes near the base of the hill. Where possible, dangerous obstacles should be removed from slopes and run-outs. If they cannot be removed, they should be buffered to prevent serious inuries to users and damage to natural features such as trees.

Hills selected for development should have a variety of slope steepness in order to serve a wide range of ages and abilities. Where possible, slopes should be selected with north- and east-facing slopes in order to reduce the melting and icing effect of the sun on the snow cover.

Municipalities should advertise the existence of good tobogganing and sledding hills in order to ensure that potential users know that the opportunities exist. In some cases, signs and access should be upgraded in order to encourage the use of good resources.

(c) Trails

The value of developing linear parks and linking park and recreation areas, residential areas, schools, and other compatible areas is becoming more obvious as the use and utility of this concept is further analyzed and understood. Many winter outdoor activities thrive in linear parks and connected systems of parks and other areas. In addition, consideration should be made of the network of sidewalks, boulevards, buffer strips and greenbelts, walkways, and other similar areas that are common in cities. The potential and value for further developing, integrating, and utilizing these resources for recreation uses should be obvious. What is known about probable future interests in types of urban recration activities suggests that a linked system or network of corridors and activity nodes will lend itself best to future conditions.

Certain types of activities need specific and single-purpose trails. A cross-country ski trail should not be used for winter hiking, snowshoeing or horseback riding, but a hiking trail can be used for snowsheoing. Snowshoeing, however, does not necessarily need a trail. Certain linear activities can take place along the same route, if not along the same trail. Some activities should have separate routes due to the atmosphere necessary for a high-quality experience. Snowmobiling, for example, is a sport that produces sufficient noise to reduce the experience of the skier.

Cross-country skiing is undoubtedly the fastest growing winter outdoor recreation activity. It is recommended that municipalities place more emphasis on providing both facilities and (instructional) programmes for cross-country skiing.

Where possible, municipalities should provide areas for cross-country skiing and other linear recreation activities that are well-treed, with long, gentle slopes, and long, level runs. Often, marking and grooming of cross-country ski trails are not necessary unless use is heavy or the orientation of the trail needs to be restricted. In future, however, the demand for higher quality facilities may encourage a municipality to provide some groomed trails in regional type parks. Wind-swept areas should be avoided where possible, because of both personal comfort and often inconsistent snow cover.

Areas that are not necessarily public parkaland can be used in urban centres for most linear activities. Examples include golf courses, utility rights-of-way, institutional lands, private vacant land, sidewalks, etc. Agreements for public winter (or summer) may have to be developed and use restrictions may have to be applied and enforced. Linear routes used by pedestrians, bicycles, horses, etc. in the summer can usually be effectively used for cross-country skiing and other activities in winter. Often, it is necessary to ensure that the trail is serviced at some convenient point by adequate parking and other support facilities such as washrooms, barbeques, picnic tables, etc.

(d) Children's Outdoor Playgrounds

It appears from all available research, that children's playgrounds will be used if the equipment is not removed during the winter months. Although it is not possible at this time to compare the amount and type of winter use that playgrounds receive in relation to the summer season, the data that are available suggest that winter use is significant. It is recommended, therefore, that playground equipment be left in place during the winter. Maintenance programmes should be designed so that necessary repairs, repainting, etc. can be conducted when necessary and that the equipment should be removed for as short a time as possible. A small extra supply of high-repair items would allow damaged equipment to be replaced with no loss of service. Stock could then be repaired and rotated.

Many municipalities still maintain a very traditional approach to planning and providing for children. It is recommended that there be a shift away from traditional playground design towards creative and adventure playgrounds. At the very least, a move should be made towards introducing more natural materials and designs which encourage a wider variety and a greater value of play experiences.

Playgrounds, especially those in major parks, should be located so that they are visible to major vehicular and pedestrian routes, in order to improve both access and visibility. Care should be taken, however, not to locate a playground too close to an outdoor ice rink in order to discourage children from using playground equipment while they are still wearing skates. At the least, some form of winter barrier such as snow-fencing should be used to temporarily impede direct access between incompatible areas.

In order to compensate for climatic conditions to some degree, care should be taken when siting the playground. Coniferous trees, shrubs and mounds should be provided to the northwest, north, and east to shelter the playground from cold winds and trap the sun in winter. When designing individual components and laying-out the various activity areas throughout the playground, the effect of snow cover and icing should be carefully considered. The base of the playground will usually be raised a foot or more by packed snow cover and protruding and over-hanging hardware, etc. could become dangerous as clearance is reduced and children could come unexpectedly in contact with these structures. Icing on equipment and under-foot can be reduced through thoughtful design. Also, the flow pattern established for summer use of the playground may change in the winter and care should be taken in design to avoid potentially dangerous patterns. Monitoring of the winter use of each playground should become mandatory to improve the potential for winter use and to reduce dangerous features.

(e) Playing Fields and Open Unstructured Areas

Almost all sizable parks, whether neighbourhood or regional parks, contain one or more open area . They may be totally unstructured or may be designed for some sort of sport activity. During the summer months, a wide range of activities take place: football, soccer, cricket, rugger, softball, frisbee, picnicking, etc. During the winter months, these same areas are usually covered with snow or ice. Some contain an outdoor skating rink, but most have been considered to be unsuitable for winter activities. Cross-country skiing has begun to change attitudes about the winter value of such open areas. In some municipalities fields, open areas, and frozen waterfronts have been used -- usually in association with a special event such as a winter carnival -- for a variety of novel activities, most adapted from summer concepts. A few of these winter activities are:

- snolf
- snowball
- snowshoe softball, foot and soccer
- moonball.

The resource base in each municipality should be re-examined in light of the potential that exists beyond the traditional view-point. Policies, regulations, and programmes should be examined and modified where necessary in order to encourage greater use of those facilities for the winter season.

4. ACTIVITIES AND PROGRAMMING

Numerous points have been made above that relate to activities and programming. Before presenting a model for program planning, a number of the most important of these points will be emphasized here.

Perhaps the most important trend that has been noted throughout this project is the shift in interest away from organized activities -- particularly competitive team sports aimed at certain limited sectors of the population -- towards more spontaneous, individual and family-oriented activities. Recreation practitioners should be prepared not necessarily to cut out all such competitive team sports, but to reassess them in light of the overall population and the leisure delivery system as a whole. A further incentive to the adoption of such activities as cross-country skiing instruction, winter field sports, nature lore programmes, etc. is their relatively low cost in terms of capital, operating, and maintenance expenses.

Recreation practitioners should also be prepared to break out of the confines of the limited set of traditional activities that are usually considered in programme planning. Such a reliance is to a large degree understandable, since it is only natural to want to continue with successful and proven activities. The adoption of new activities will, however, have two benefits: it will broaden the proportion of the population participating in the recreation programme; and it will broaden the range of possibilities for those already participating.

Such activities, however, will not be successful unless the potential client is aware of them, understands what they are (e.g., what is "snowshoe baseball" anyway?), and learns how to take part in them. There are two functions necessary here: promotion and education. In terms of promotion, the potential clients should be made aware of the range of activities available, costs if any, equipment required, rules of any games, etc. Education in turn can be broken down into two parts. The first is general leisure education, i.e., the necessity to explain the importance of leisure, the role of recreation, fitness, participation, etc. The second is education in terms of the specific activity (e.g., snowshoe soccer). For many of these activities, it is necessary only to provide enough information to get people started; after that, they should be left alone, the only function of the practitioner being to maintain the facility, safety, etc. The mix of activities provided by any agency should allow both for people who want the entire program "laid on" for them and for people who merely want the opportunity provided so that they can do their own thing when they want to, rather than in groups or at specific times or locations. For example, a cross-country skiing programme could provide the following activities, all of which might interest the same people, but which provide variety for them as their skills increase or at different times of the season: basic instruction, advanced instruction, waxing clinics, movie nights, races, organized meets (the goal of which is not to win but to finish and to beat one's personal previous time), nature lore, winter outdoor cooking lessons, winter camping, a combined vita parcours and ski trail, and simple recreational skiing trails.

Such a mix of activities and a search for new activities emphasizes the importance of the relationship between the roles of the planner/designer and of the programmer. Each must know what the other is doing and needing. Neither one should be the supreme determinant of the nature of the programme; rather, they must operate as integral, interacting elements in the leisure delivery system. For example, it may not be feasible for a planner/designer to build an artificial hill just because the programmer wants a first-class luge run, but he/she may be able to modify an existing hill so that it becomes an excellent toboggan run. Similarly, the designer should consult with the programmer when planning a new facility such as a park, to determine the requirements for winter activities (e.g., the need for a winterized washroom).

Above all, it should be recognized that the philosophy for the winter use of urban parks noted above applies directly to activities and programming:

- Think winter.
- Promote winter.
- Quality over quantity.
- Know your client.
- Do more with what you have.
- Be innovative.

5. A MODEL FOR PROGRAM DEVELOPMENT

Many recreation master plans to date have addressed land acquisition, open space planning, and facility planning, but have omitted the programming aspect. Yet, program planning is an equally important component of the delivery of public recreation services. It generally consists of five phases:

- needs assessment
- objective-setting
- programme design
- programme implementation
- programme evaluation.

Each of these phases will be briefly discussed.

(a) Needs Assessment

To be meaningful, needs assessment extends beyond a demographic analysis of a community. Recreation is one field that survives largely on the basis of volunteerism. Yet most of these volunteers have been called upon for assistance solely at the programme implementation stage.

There is increasing importance being placed on both the desirability and necessity of incorporating the public in the making of decisions that affect their lives. It is important therefore, to actively include existing and potential participants in programme planning, design and evaluation, along with volunteer, part-time and full-time staff.

(b) Objective-Setting

In order to be able to assess a programme's effectiveness in meeting the recreation needs of a community, the needs must be categorized, priorized and translated into programme objectives. These objectives provide a focus and guidelines for the varied components of the programme. They must, however, be stated in operational terms. For example, is an instructional ski programme to be considered successful if 30 people attend? if 25 learn to ski? if there is a waiting list of participants? if the programme pays for itself? The question to be answered is: what are the criteria of success? These criteria must be made explicit from the beginning, for a meaningful evaluation to be conducted.

(c) Program Design and Implementation

Program design and implementation refer to decisions regarding the actual mechanics of the programme: format; content; instructor/s; method of instruction; management of facilities, procedures, budgets; supplies and equipment; scheduling; promotion; registration; etc. These decisions are based on the underlying philosophy and purpose of the organization which determines priorities therein for the programme planning process in general.

(d) Programme Evaluation

Once objectives have been set, it becomes possible to assess the programme's effectiveness in meeting these objectives. A programme evauation is really a re-diagnosis aimed at improvement of the present programme or of future programmes. There are many methods (formal and informal) by which the programme can be researched, depending on the nature of the programme and the scope of the evaluation. The data then feeds back into the first phase of the process. It is the basis upon which a decision to either discontinue a programme or to continue it in some amended form can be made. If feedback reveals that cross-country ski trails are over-crowded, for example, the overall programme objective might change from that of promoting increased participation to promoting alternate winter activities or locations.

A programme planning process of the above type has been used more frequently in education than in recreation, where it has not been used to any greater degree for summer programming than for winter.

Some professional development activity is essential to familiarize recreation practitioners and volunteers with programme planning techniques, as well as promotional techniques. Successful programmes do not just happen; they are planned and then marketed. The process, however, is ongoing. One success does not guarantee another.

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